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SINO-SOVIET AIR DEFENSES FAR EAST (U)

NAVY review completed

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FLETT IN ELLIGENCE ENTER PACIFIC
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SING SOVIET BLOC AIR DEFENSE SYSTEM IN THE FAR EAST

1.0 INTRODUCTION. The purpose of this publication is to present a concise summary of the Sino-Soviet Bloc Air Defense System in the Far Last. (A more detailed study of this nature can be found in the JSTS publication, Air Defenses, Sino-Soviet Bloc).

Part I of this publication discusses the characteristics, performance, capabilities and limitations, and deployment of the equipment comprising the air defense system. A summary and conclusions, which should be considered in mission planning, is given under Tactical Considerations (Para 1.8).

Part II of this study contains a Radar Horizon Nomogram for determining the radar line-of-sight horizon for aircraft at various altitude.

Part III discusses the construction and use of Strike Penetration Templates, which provide a graphic solution for the problem of the possible points of interception by fighter aircraft, and FLAX INPRAIRS.

Part IV contains graphic locations of installations with explanatory textual material, and tables of Sino-Soviet air defense equipment.

1.1 AIR DEFENSE ORGANIZATION.

1.1 AIR DEFENSE ORGANIZATION.

The Soviet Air Defense Commend, known as PVO, is on a equal staff level with the ground, naval, and air services. Personnel, equipment, and facilities are furnished to the PVO by the other services. The PVO exercises opportional control over all elements necessary to direct air defenses along the peripher of the direct of the thin one this command is divided into air defense districts which are further subdivided into air defense sectors. Both the district and sector headquarters receive information from early warning radar sites, evaluate this raw data, and disseminate data and orders. The air defense district coordinates the air defense activities of the sectors, which are considered to be the most important element in the air defense chain-of-command. The sector HO, which is directly responsible for the air battle, plots incoming raids and makes decisions on laumch and intercept.

The structure of the air defense systems (ADS) the air defense organization is expected to undergo an alteration that will be handled by computers in the zonal headparters; Air Defense Zones, incomputers and intercept data will be handled by computers in the zonal headparters; Air Defense Zones, incomputers and the zonal headparters; Laportanton SMRTH KORAM Air Defense organizations are modeled after the PVO with one or more districts subdivided into sectors. The CHICON headquarters is at PYINCTAMC. Although the air defense of each country are separate and independent systems, close lisison exists among the three countries.

1.2 AIR DEFENSE OPERATIONS.

The Soviets have developed and deployed an extensive system of Early Marning (EM) and Ground Controlled Intercept (CGI) radars, fighter interceptors supported by Anti-Aircraft Artillery (AAA), and Surface-to-Air Missiles (SAM). This system is difficult to penetrate without detection and poposition. Passive detection devices and early warning radars which alert the system, ground controlled intercept radars which provide positioning information for fighter direction, and widespread deployment of AAA and SAM defenses around important targets pose a serious problem to be considered in attach mission planning.

1.2.1 TRACKING OPERATIONS. The flow of information at the sector level is as follows:
The EW radars, passive detection equipment, and visual observers (visual observers are still used in NORTH NOREA and CHIMA) pass information of an oncoming raid to the CCI radat controller in order to obtain a three dimensional position of the stateker. The sector filter center receives these injure, this information is plotted, and tracking and identification operations are initiated. Information is probably correlated with adjacent filter centers and forwarded to district filter centers. AAA and SAA batteries in the vicinity are alerted of the possible "boggs" oy the sector headquarters and attempt to squire the incoming aircraft on their acquisition radars. If a raid cannot be identified, and a fighter scramble is indicated, the sector filter center probably passes information to the CCI controller to assist early identification of attacking sireraft on the CCI scope.

1.2.2 INTERCEPT OPERATIONS. Divisional or regimental CCI controllers vector aircraft to intercept, but they probably do so under the general control of the local sector commander. Soviet procedure for the manual (non-data link) control of interceptors does not differ significantly from vestern procedures. The techniques used may be catergorized as follows: Close control, Loose control, Boasdcast control, and Barrier or Combat Air, Extra control, under Close control, the CCI controller instructs the pilot to at to heading, speed, and altitude to fly; relative bearing to the target; time to go; and other necessary data to permit the pilot to detect the target and convert to a firing pass. Loose control'is essentially a degraded form of Close control in which the controller transmits information

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co enemy forces, such he raid numbers, positions, headings, velocity, and altitude or to the information landers of airborne interceptors. The formation leaders must then mavigate to the target area and affect contact. If large numbers of aircraft are involveds, fivendeast control, which is a degraded form of Loose control-and a desperation tactic-may be used. Under Broadcast control, information on the position, velocity, heading Excalitude of the attacker is of poor to unknown validity. For example, the information may be based on nothing more than interpretation of jessing atrobs. Interceptors under Broadcast Control are normally deployed in parto, or search presents as a partoles. Interceptors under Broadcast Control are normally deployed in parto, or search Extra or Combat Air Patrols (CAP) are often used by the Soviets to guard specific targets or approaches to targets after an incoming raid has been detected. The formation leaders of a CAP are normally under Close or Loose control until the battlers joined. Consequently, Barrier patrols will normally be placed within 125 My of a ground controller. This technique requires formations to be positioned over reference points and kept in one location to await the enemy. This procedure is especially valuable in reducing system reaction time against high speed penetrations. CAP allows a very high denaity of Soviet interceptors are not capable of All-Weather interceptors in sany areas. Althouth economically disadventageous, this permits high employment of the total force. Since the sejority of Soviet interceptors are not capable of All-Weather interceptors, the superior that control system, fighters may be scrambled and vectored in groups of four or more and Close control and greater numbers under Loose or Broadcast Control. To avoid esturation of the air control system, fighters may be scrambled and vectored in groups of four or more and Close control instructions given only to the designated leader of the formation. In the case of All Weather fighters, intercep

1.2.3 ANTI-AIRCRAFT ANTILLERY AND SUFFACE-TO-AIR MISSILE OPERATIONS. Anti-Aircraft Artillery (AAA), which is still of considerable importance in the defensive posture of the Bloc
nations, and surface-to-air missiles (SAM) are controlled by the air defense districts. An
Arwy liaison officer at the district control center controls the AAA and SAM batteries within the
district. At the sector level, a SAM/AAA liaison-bificer coordinates the activities of fighters
interceptors with the individual AAA/SAM batteries within the sector. When the threat moves
toward the AAA*cone of responsibility, data from the acquisition radar are used to assign each
target to a specific battery. The fire-control radar in the designated battery then tracks the
target and feeds information to a fire-control director which computes the firing data and
controls the guns. Fire-control radar usually are assigned on the basis of one radar for each
battery of 5 to 8 guns; however, order of battle information shows that there are not enough
radars to astisfy this requirement in U.S.S.R. The ratio is even lower in NORTH KOREA and

As with AAA, acquisition radars acquire the target and provide the necessary information to the PAN SONG missile control radar for tracking the incoming raid at SAM sites.

1.3 ELECTRONIC EQUIPMENT.

Electronic equipment is essential to the modern air defense system. Early Warning radars alart the system; Ground Controlled Intercept radars provide positioning information for fighter direction, and Surface-to-Air Hissile and Anti-Aircraft Artillery sites require acquisition and Fire Courto! radars. Also important to the modern air defense system are Airborne Aid-to-Intercept radars which are installed in some of the Soviet interceptors, communications and data-link systems which are required for rapid dissemination of vital information, electronic countermassures, and Identification Friend-on-Foe systems.

Host Sixo-Soviet electronic equipment is less sophisticated than that of the United States. Evertheless this apparent deficency is somewhat offset by the deployment of equipments in large numbers.

members, the social important of all electronic equipments in an air defense system are the reads of the social important of all electronic equipments in an air defense system are the reads of the structure. The reads reasportes that are associated with air defense and which will be discussed in this study are: Early Warning and Surveillance, Ground Controlled Intercept, Reight Finding, Acquisition and Fire Control, Identification Friend-or-Fos, and Airborns Aid-to-Intercept readers. Radars are further subgrouped according to their frequency range by a carrier-band letter designator, such as X, L, or S band.

Datalled studies of the Bloc electronic equipment can be found to ONI 26-10 and Electronic Intelligence Report (PACON AIS 6).

- MADAR FREQUENCY CATEGORIES

BAND	FREQUENCY (megacycles)		WAVE LENGTH (CH)	<u> </u>
ART	30-300		1000-100	
	225-390		133-77	
	390-1550		77-19	
-	1550-5200.	7	19-6.0	
	3900-6000		6.0-3.3	
	5200-10,900		3.3-2.7	
	10,900-36,000		2.783	

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1.3.1 EARLY WARNING AND SURVEILLANCE RADARS. There are three primary frequency range untilized by all the Soviet EW and Surveillance radars. These are: VEF, L-Band, and S-band. Although the VEF radars are more widely deployed, the S-band radars play a more prominent role in the air defense system.

Radars operating within the VEF frequency band include the ENIPEREST/HI DURING families, STOUREST, FORE REST, and TALL KING.

TALL KING is relatively new and considerably different from the earlier VEF radars. It is a powerful high performance piece of equipment that increases the Soviet line-of-sight detection range to approximately 400 FM. This radar is being deployed along the Soviet coastline and, when completely deployed, will be an extremely important element in the Soviet early warning detection system.

TALL KING is relatively new and a powerful high performance place of equipment that increases the Soviet time and a sprominately 400 MM. This radar is being deployed along the Soviet coastline and, when completely deployed, will be an extremely important element in the Soviet early varining detection system.

FOR REST is another VMF yayi-type radar shill are in appearance to the KNIFREST. Little information is available on this radar, but there is speculation that it may be an inexpensive continuous wave, or pulse doppler radar with an effective low-altitude coverage capability. This hypothesis however cannot be verified at the present time.

There have been recent intercepts of signals from still another new VMF radar MOONCON. The mentating from Communist China. At present no lobe pattern data are available upon which to construct a coverage diagram, but the Fleep' Air Reconnaissance Squaderno One estimate that the radar may be similar to the SPOONREST with a range capability approaching that of the TALL KING. Once, again limited information precludes an accurate estimate of performance capabilities.

Hamy of the older VMF EW radars in the KNIFEREST/KUS/UMMO families are used for back-up and gap fillers for primary sites.

S-band radars consisting of the TOKEN/STRIKZOUT/SLANT MESH, BIG MESH/SIG MAR, and MAR LOCK/CHOSS OUT represent improvements is range, altitude coverage, ECCA, and performance capability render in the source of the few Soviet radars of radically new design. Its high mobility and good low-level datection cagability render it quite versatile.

The sonly radar of any consequence known to be operating in the L-band is the FLAT FACE. It is one of the few Soviet radars of radically new design. Its high mobility and good low-level datection cagability render it quite versatile.

The main characteristics of the significant EW and surveillance radars in the Far Esst will be discussed in the following paragraphs. Significant characteristics are also listed in table of or easy reference in Table I of Pa

- (1) HI DUMMO An obsolescent equipment with no anti-jam features. It has been virtually phased out in U.S.S.R. with a few sets remaining in Communist CHINA and several in NORTH KORZA.
- (2) ENIFFREST This radar comprises a major portion of the radars currently in use. It has a range capability comparable to the early 5-band radars and may have a limited height-finding capability; however, resolution and low altitude capability is inferior. Anti-jamming features are reportedly included, but have resulted in limited improvement. Recent exercises in the Sowiet Union indicate that this radar has a good anti-chaff (ECCH) capability.
- (3) <u>SPOONERST</u> This set is used as an acquisttion radar for the SA-2 SAM system and in an EM role. The new SPOONERST B is electronically similar to the ENIFERST and may gradually replace ENIFEREST in important areas.
- (4) TALL KINC This latest type of operational radar is a permanently mounted parabolic mesh reflector 115 X 41 feet with a detection range of about 400 RM against small targets at an altitude of 125,000 feet. It has better low altitude coverage than KNIFEREST and extremely good high altitude coverage.
- (5) SCR-270 The most videly used radar on the CHINESE mainland. It is a modified version of older U. S. radars and has good high altitude coverage capability. It is of Chinese manufacture and has a limited height finding capability through lobe switching.
- (6) <u>PORK REST</u> A VHF radar that has recently made its first appearance in the Far East. Little information is available on this radar at the present time.
- (7) HOON COME The latest CHICOM produced EW radar. HOON COME has parameters similar to SPOUN REST and TALL KING with range estimates the same as the latter. This set was formerly named by IRM code BKDQ (BUNQ).

(1) FLAT FACE . This radar is designed for low altitude coverage. Although it is apparently being used as a medium range surveillance radar, and possibly for CCI, it has the potential for use as a mobile acquisition radar for a SAM system. It is estimated to have moving target indicating (MTI) circuitry and anti-jam capabilities.

c. S-Band.

(1) TOKEN/STRIKE OUT/SLANT MESH - TOKEN is a V-beam radar that can be used both for EW and GCI. STRIKE OUT is a modification of TOKEN in which the slant reflector has been repositioned horizontally to improve the high slittude coverage. TOKEN and STRIKE OUT are the first generation 5-band radars. Although MTI does not exist on these radars, limited anti-jam capabilities do exist. SLANT MESH is a V-beam radar similar to TOKEN with equal range

capabilities. SLANT MESH has 7 S-band frequencies rather than the 5 used by TOKEN and may improve its auti-jam capability. The V-beam construction of TOKEN and SLANT HESH gives them fair height-finder and GCI capability.

- (2) BIG MESSI/BIG RAN. BIG MESSI is an improved and larger version of the TORIN. This redar utilizes 5 S-band frequencies and one L-band (570 megacycles) frequency. BIG BAX is electronically identical selections (1851, but the construction of the reflectors are smiller to the RAN LOCK. Both BIGESS and BIG BAR are estimated to have MII, and the 570 megacycle frequency may improve the anti-jee capability of these radars. Since both radars operate on the V-beam principle, they may be used for GCI as well as EM.
- (3) <u>BAR LOCK/CROSS OUT</u> These are second generation developments of STRIKE OUT. They have long range and high altitude capabilities. The 570 magacycle I-band beam is included with the 6 S-highd frequencies which, along with MTI, increases the capability of the radars at low altitudes and in an ECM environment. These radars do not have a CCI capability.
 - (4) CROSS SLOT A CHICOM developed and manufactured radar. It is a permanently radar and has an impressive range and low altitude detection capability.

STREMETH AND DISPOSITION OF PU RADARS: The Soviet approach to the solution of the detection and tracking problem is one of bruta force. New radars are added to the irventory at established sites supplementing rather than replacing the older radars in the vicinity.

As can be seen in Part IV of this report, the EW coverage is complete along the communist Far fastern was coast. Even in the Far Worth the coastal area is dotted with radar installations. It is becoming increasingly apparent that the Soviets are establishing Trimary EW/CCI sites" along the periphery and that these primary sites are being standardized with the following: One or more of the best Soviet EW redars (RAMLOCK or TALL KING); a beight finder radar (ROCK CAKE, STONE CAKE, STONE CAKE, Or SIDE NET); a V-beam radar for EW and CCI back-up (TOKKEN or BIG MESS); VIF EW back-up radars (ROCK CAKE, STONE CAKE, STONE CAKE, OR SIDE NET); a V-beam radar for EW and CCI back-up (TOKKEN or BIG MESS); VIF EW back-up radars and SAMRAIN Island, the primary sites are placed at intervals of from 30-50 RM side of the Soviet martities provinces and SAMRAIN Island, the primary sites are placed at intervals of from 30-50 RM side of the Soviet martities provinces and SAMRAIN Island, whallow cowerges by EW/CCI radars.

Apparently the CHICOMS side of the Soviet side of the Soviet side consists of: A CROSS SID. SIZE 70, and a KNIPERST or DUMO. A TOKEN or BIG MESS V-beam radar supported by a ROCK CAKE height finder may be located at a primary lets to Provide and CCI capability. Virtually all of their important radar sites have the CROSS SIDT and/or SCR 270.

and/or SCR 270.

The NORTH KOREAN early warning radars are RUS, KHIFEREST A, TACHI 18, SCR-270, and TOKUM. SO and ST-271 surface search radars may also be used in an EM role. Soch coasts of NORTH KOREA are given an EM radar coverage within the capabilities of thase obsolescent equipments. TOKEM is the most effective EM radar in NORTH KOREA when employed in an EM role.

equipments. TOREM is the most effective by radar in NORTH EOREM who employed in an EM role. equipments to the most effective by radar in NORTH MOREM who employed in an EM role. CAPABILITIES AND LIDITATIONS OF EM RADARS; One of the primary strengths of the air defense systems is the shility to detect targets at long ranges. Extensive deployment of radar installations permits overlap coverage and allows maintenance and repair of equipment without loss of complete coverage.

Filots are cautioned not to attempt to utilize radar lobe patterns to forecast radar detection probabilities. These diagrams are useful only in determining order-of-magnitude probabilities for individual isolated radars. The probabilities for individual isolated radars. The probabilities for most of the parameters of all the radars which eight the brought on the radges is a function of the parameters of all the radars which eight the brought constraint.

The statement that system capabilities must be considered constraints to explain through example: Suppose that, at a given point in space these radars has a SOM probability of detection that stream a state of the stream of the attacking aircraft, and that though a the stream of the attacking aircraft, and that the stream of the stream of

a. The Soviet capability may be summarized as follows:

- (1) The Soviet's complex of primary sites has a good capability for detecting a high altitude target (30,00 feet and above) out to the PRF limited ranges (220 NM) of BAR LOCK and BIG MESH. If the site is equiped with TALL KING, a capability exists to detect targets out to 280-300 NM when the target is flying at or above the SO-60,00 foot line-of-sight altitudes associated with these ranges.
- (2) For slittudes below those stated above, all sircraft regardless of size can expect to be detected at ranges equal to the radar horizon for flight altitude.
- (3) In areas not covered by primary radar sites it is probable that detection will cour until the penetrator is within 150-160 RM of the coast.
 - b. The CHICOM capability is as follows:
- (1) The EM range capability along the CHICOM coast extends out to 160-225 NM magainst penetrators flying at altitudes in excess of 20,000 feet. Sites containing MOON COME will probably permit EW coverage out to the radar line of sight horizon at all operating
- (2) The CHICOM-produced CROSS SLOT is estimated to have a good low altitude detection capability. Although the majority of their radars do not have buch a capability, detection should be estimated for planning purposes at or slightly beyong the radar horizon for flight-altitude.
 - c. The NORTH KOREAN capability is as follows:
- (1) The EW range capability is 150-225 RM against the high flying attacker over
- (2) Although low-level detection is not expected to be good, detection should be estimated at the radar line-of-sight horizon for flight altitude.
- 1.3.2 REIGHT RINDING RADARS. The height finders used in the Soviet Far East are the ROCK FCAKE, STURE CAKE, STURE CAKE, and SIDE RET, all of which are essentially the same in signal parameters. The SPUNCE CAKE and SIDE RET are new radars whose performance has yet to be 'irraly evaluated', but it is expected that the performance of these radar will exceed the earlier height finders. The STONE CAKE has a greater range capability and a better radiation pattern than the ROCK CAKE and is utilized at the more important OCI sites. Refer to Table I for performance parameters.

DISPOSITION OF HF RADARS: The U.S.S.R. has ROCK CAKE STONE CAKE, and/or SPONEE CAKE radars at their "primary" EW/CCI dites and SIDE NET has been colocated with TALL KING at many. The CHICOMS have received only ROCK CAKE which they are using to improve the height fining capability of V-beam TOKEN-type radars and to establish CCI sites by colocating a ROCK CAKE with

The MORTH KOREANS do not possess any height finders, but have limited HF capability using the V-beam TOKEN.

CAPABILITIES AND LIMITATIONS OF HF RADARS: ROCK CAKE and STONE CAKE have the capability of determining altitude data out to a maximum range of 180 RM and 220 RM respectively. The SIDI RT is estimated to have a capability out to the radar line-of-sight horizon at aircraft altitude. Ground clutter and terrain masking may render these radars ineffective at low altitude (below 500 feet) over land and rough water.

All the height finder radars are concentrated in a marrow frequency range in the 5-band which makes these radars susceptible to jamming. SFONGE CAKE and SIDE RET are estimated to have RTI.

1.3.3 GROUND CONTROLLED INTERCEPT RADAR. A CCI capability was first achieved using the V-beam TOKEN type radars. These relatively limited sets are now being superceded by the more accurate EM/HH combinations for this operation. Although TOKEN, SLANT MESH, BIG RAR, and BIG MESH are independently capable of providing the three dimensional positioning medded for fighter control, the inherent weaknesses of the V-beam radars in height finding may be overcome in important locations by placing an HF radar nearby.

EM/HH combinations are appearing at the more important RUSSIAM CI myrimary sites. The colocation of an HF and EM radar may not necessarily determine a CCI capability at the site, but such a capability will be given to EM/HH combinations in this publication. Considering trange and degree of sophistication, RAR LOCK/FRONG CARE and TALL KIM/SIDE NET are the most important combinations.

The CHICOMS have received from the U.S.S.R., the TOKEN and BIGMESH V-beam radars which are often colocated with a ROCK CAKE height finder for improved CCI capability. ROCK CAKE height flowers may be used with an EM radar for CCI coverage.

NORTH KORRE's entire CCI capability is provided by TOKEN.

DISPOSITION OF OCI RADARS: The Soviets provide important industrial and military areas with dense OCI radar coverage; elsewhere they maintain a relatively dispersed radar coverage.

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Host of the Soviet coast has continuous overlapping coverage against high altitude aircraft. The CRICONS have deployed a V-beam radar at, or in the close vicinity of, most of their attribudes supporting interceptors. They have also placed one or more CCI sites near important industrial and population areas. In other areas the deployment of CCI sites is sparse, but is adequate to permit overlapping coverage along the entire coast of the CRINESE mainland.

NORTH KORIA has deployed TOKEMS in such fashion as to provide coverage along the periphery of the country.

of the country.

The graphics in Part IV of this study may be consulted for current radar order-of-battle informations:

CAPABILITIES AND LIMITATIONS OF CCI RADARS: It is unlikely that a low flying aircraft (below 200 feet) will be tracked continuously by an individual site; however, sporadic tracking may occur where some than one site can cover the attack. Ground clutter and terrain masking make aircraft radar tracking and CCI extremely difficult at such an altitude. It is unlikely that attacking aircraft flying inland at altitudes below 500 feet will be adequately tracked for CC control of interreptors.

At medium to high altitudes, the following summarizes the Bloc's capability:

- a. The average Soviet GCI capability against medium to high altitude targets (30,000 feet) of the A-3B reflective area is approximately 200 RM. The TALL KING/SIDE NET combination may have a GCI capability out to the radar line-of-sight horizon.
 - b. The average CHICOM CCI capability against medium to high altitude targets would be M provided by TOKEM or 158 NM.provided by.SIG MESH. It is doubtful that the CHICOMS would pt to amgage a traget at ranges in excess of 125 RM from the coast.
 - c. The MORTH KOREAN GCI capability does not expeed the 110 MM GCI range of TOKEN radars.
 - 4. ROCK CARE and STORE CARE, the most common height finders in the Fer East, have the capability of determining altitude data out to a maximum range of 180 RM and 220 RM respectively up to the maximum altitudes of all operational aircraft.
 - e. Lack of matiefactory high altitude height-finding information in areas where RDCK CARR/STONE CARR/STONE CARR/SIDE NET have not been deployed is a weakness of the GCI system. Table I in Part IV of this study contains performance parameters for the GCI radars used in the Par East.
- Table I in Part IV of this study contains performance parameters for the GCI radars used in the Far Last.

 1.3.4 ACQUISITION AND FIRE CONTROL RADARS. The radars commonly used for acquisition in the Seviet Sinc countries in the Far Last are: RHIFEREST, CROSS FORK, STOCKEST and FLAT FACE. The characteristics of KHIFEREST, STOCKEST, and FLAT FACE are discussed under and Surveillance radars Courageaph 1.3.1) since this is the primary function of these radars. CROSS FORK, a low possible of the country of the Stocked Face of the Countries of the VIF frequency range, is the Soviet version of the U.S. SCHOL, and the Countries of the VIF frequency range, is the Soviet version of the U.S. SCHOL, and the Countries of the VIF frequency range, is the Soviet version of the U.S. SCHOL, and the Countries of the VIF frequency range, is the Soviet version of the U.S. SCHOL, and the Countries of the VIF frequency and the VIF frequency and the VIF frequency of the U.S. SCHOL, SCHOL, and VIII which operate of 6.0 MC/22 MM respectively, FIRE CAM, TRUK DISH, and VIII which has a search/track range of 6.0 MC/22 MM respectively, FIRE CAM untiles any one of four fixed frequencing from 2560 to 3000 magacyte, a newer fire control substitute time period is required to change the tubes in order to alter frequenciative to forty minute time period is required to change the U.S. SCHOL and FIRE WHILL a newer fire control which were against a search/track range 70 SM/35 MM. FIRE CAM and FIRE WHILL a newer fire control which were used to be 43 MMC/35 MM regulator and the WHILL FIRE CAM and FIRE WHILL are estimated to have MII.

 FAR SOME is the guidance radar used with the Na-2 Margard and one in the C-band. The S-band ext is the activative many other and was deployed extensively with the initial rapid deployment of the S-band ext at many other stans, the Country of the S-band and one in the C-band. The S-band ext is the activative model and acceptability to 33 MM against a 1 square meter terget, and a frequency diversity which will dilute the jum

The command guidance signal associated with FAM SONG operates in the 700-800 magacycles unnery range. It is estimated that up to three missiles could be controlled simultaneously by each FAM

CAPABILITIES AND LIMITATIONS OF ACQUISITION AND FC RADARS: The CROSS FORK and EMIFEREST acquisition radars are of rather unsophisticated design, but should perform satisfactorily against aircraft above 1,000 to 2,000 feet. Below this, the performance of these equipments is considered poor. FLAT FACE, designed primarily for low attitude coverage, should be able to detect targets down to 100-200 feet out to the line-of-sight ranges.

FAM SOUN radar is estimated to be capable of tracking at aftitudes down to 1500-2000 feet; however, terrain features and other outructions around the SAM sites may limit this low altitude capability. FIRE CAM-mad-FIRE WHEEL have a good low altitude capability. FIRE CAM-mad-FIRE WHEEL have a good low altitude capability decreases rapidly from 3000 to 1000 feet and does not exist below 1000 feet.

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DISPOSITION OF ACQUISITION AND FC RADARS; The Soviets have all of the above radars, except the FIRE VHEEL, deployed in the Far East.

The radars supplied to the CHICOR'S by the Soviet Union are the WHIFF, FIRE CAN, FIRE WHEEL, FAN SOME for tracking, and the KNIFERST, CROSS FORK, DUNBO, FLAT FACE, and some TOKENS for target acquisition. They also utilize the BEAM TRACK -- a searchlight control radar -- for tracking low flying targets.

BORTH KORZA has been equipped with WHIFF, FIRE CAN and BEAM TRACK for tracking, and EMMIFREST and some TOKZHS for Larget acquisition.

The graphics in Fart IV of this study contain the AAA order-of-battle in the Far East and the confirmed acquisition and fire control radar. TOKENS -

- 1.3.5 AIRBORNE AID-TO-INTERCEPT RADAR. The currently operational AAI radars are not estimated to have NTI. Because of this, the Soviet AAI radar effectiveness is poor against targets flying below 3,000 feet. The Airborne Aid-to-Intercept radars discussed below are installed in the Soviet Bloc interceptors in the Far East. In Fart IV of this study Table I gives specifies of the AAI radars, and Table II shows the radars to be expected in the various Soviet
- a. SCAN FIX This is the only S-band radar installed in Soviet interceptors. It is a range-only radar having a maximum range of about 3 RM.
- b. SCAN ODD This is an X-band search/track radar. Its search/track ranges are 5 NM/ 3 NM respectively.
- c. SCAN ODD (modified) A modification of the SCAN ODD antenna which has resulted in an increased search/track range to 8 NM/ 6 RM respectively.

 d. SCAN THREE An band search/track radar having ranges of 12-16NM/8-16 NM respectively. Both search and track modes operate simultaneously resulting in a track-while-scan ively. Both capability.
- e. SCAN CAN Than X-band radar specifically designed for use with beam rider air-to-air missiles. Its search brack range is 8000/600 respectively.
- SPIN CAN An X-band search/track radar having a range of 1000 for search and 700 for track.
- g. HIGH FIX This is an X-band version of SCAN CAN and is a range-only radar with a maximum range of 3 NM. It is installed in certain of the never high performance aircraft.

1.3.6 IDENTIFICATION FRIEND-OR-FOE. (TAFF can be used to extend the effective range of CCI redars by assisting the CCI controler interactions that the control of the contr

The SCORE MOAND ground intercognics and account of the L-band. Little information is available on this system, not yet named, operates in the L-band. Little information is available on this system.

The CHIMESE Communists are known to possess the L-band IFF equipment; however, the extent of L-band utilization is not fully known.

The NORTH KOREANS still employ the FISHRET interrogator and the SRQ airborne transmitter

system.

3.7 AIR IDEFENSE COMMINICATIONS, Communications play a vital part in coordination, reporting, controlling, and administration within the Sino-Soviet air defense system. The concepts used in Sino-Soviet communications are much the same in all Bloc countries, but differ in state of development. With the high speeds of arieraft and missiles, and the multitude of commonents involved in air defenses, an automatic data processing capability is necessary to control a modern air defenses, and nearly the source of the second of

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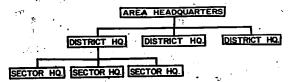


Figure 1: AIR DEFENSE ORGANIZATION

North Korea and North Vistnam each comprise one defense district. The number of sectors in each district varies with the size and importance of the district. Paragraph 1.2.1 explains the operating techniques of these units and indicate the need for communications to pass data between the various headquarters and components.

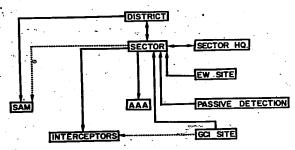


Figure 2: FLOW OF AIR DEFENSE-CONHUNICATIONS

The passage of information at the local level is indicated in firure 2. The EW site and/
or passive dataction equipment datacts the target and passes information through filter enters
to the Sector Beadquarters. Here the information is plotted and the approaching aircraft is
identified. If the "BOCET" is determined to be unfriendly, command information is sent to the
AMA, EMA, or interceptor units that will be involved in the destruction of the stacking airccraft. Information is also passed to the district headquarters and adjacent sector headquaters
that might be involved in the intercept problem.

The present communications facilities employed consist of: high frequency radio-morse,
teleprinter, and voice; landlines for voice and teleprinter; and microwave relay for voice and
teleprinter. The loss of key landlines communications tenters would greatly come explanation
for the Soviet retention and expansion of their Hr radio facilities. The district one explanation
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for the soviet retention and expansion of their Hr radio facilities.
The air-to-ground and ground-to-sir communications is another serious veakness of Bloc
communications. The older interceptors are equipped with a four-thannel Wir communication set,
and this places a serious liadipulate the sequence of the sections interceptor shall be not explanated to the sections in the passes are serious to the section of the section of the section set of the section of the section of the sections of the section of the section

CAPABILITIES AND LIMITATIONS OF AIR DEFENSE COMMUNICATIONS: Inadequate ground-to-sir and ground-to-ground communications in outlying areas are serious weaknesses of the Sinn-Soviet air defense system. Communication links will probably become overloaded if large numbers of inbound strikes reach CCI range simultaneously.

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The present VIF ground-to-air communication system is a limiting factor of raid-handling capability. Because of the limitations of this system, it is estimated that a maximum of five or aix simultaneous interfacts will be the limit for a single control center. SADS, however, is expected to be capable of accommodating a maximum of 100 tracks (50 targets and 50 interceptors) simultaneously.

1.3.8 ACTIVE ELECTRONIC COUNTERMEASURES. The Russians are known to employ ground-maked jamming equipment in all frequency ranges from HF up to 10,000 megacycles. They are thought to have the capability of causing scope saturation on whestern bombraw radars within a 50 RN radius of the jammer. No specific locations have been reported for these equipments; however, active jamming should be expected near major targets.

The CHIOMS are also capable of jamming HF through 5-band, and possibly X-band equipment, but it is estimated that they do not have an effective ground-based jammer for countering bomb/nav radars. They have used decoy radio beacons (SPOOFER REACONS) against Western aircraft in the past and will undoubtedly continue to do so.

1.3.9 PASSIVE DETECTION. The Soviets are known to employ passive detection equipments covering the HP, VHF, UHF, S-band, and X-band frequencies; infrared detection equipment is also thought to be employed, particularly along the copst approaches to targets. All of the passive detection equipments are integrated into the air defense system.

The CHICONS and NORTH KOREANS also have passive detection equipment to supplement their CV radar system, but the location of these devices, which are highly mobile, is unknown.

1.4 EARLY WARNING RADAR PICKET SHIPS.

The Soviets have converted six T-43 class mine sweeper's for picket ship duty by adding KNIFIREST or BIG NET EN radge and passive ECN and IFF equipment. These Pickets are apparently being used as Fleet units; however, in the event of hostilities they could be used to extend the EW radar horizon in important areas.

A) The CHICONS may have similar equipment deployed, but only one patrol excort has been confirmed to have an EW radar installed.

1.5 FIGHTER AIRCRAFT.

PERFORMANCE. The Communist Bloc fighter aircraft in the Far East, ranging from the FAGOT to the high speed all-weather FISHPOT, possess very good performance characteristics. It is beyond the scope of this publication to go into lengthly details of each aircraft's capabilities. Instead, a tabulated listing of the fighter characteristics of concern to attack pilots is included in Table II, page 4.3, of this publication. Additional information is available in AFS's Technical Characteristics and Performance Handbook. Detailed studies have been published in various AFSC and ATIC publications.

ARMAMENT. Widespread use of guns in Sino-Soviet fighters indicates a necessity for leadpursuit tactics. Most Bloc fighters will require visual contact prior to opening fire. This
places a definite limitation on intercept daring poor visibility conditions. Recent sightings
have confirmed an operational status for air-to-air missiles (AAM). These have been observed
carried as external stores. Table II lists ardament-fighter combinations to be expected and
certain performance factors for gun and AAM armament.
Although the CHICONS and NORTH KOREANS possess interceptors capable of carrying AAM, there
have been no confirmed reports to indicate that they have received these weapons from the U.S.S.R.

DISPOSITION OF FIGHTERS: There are approximately 800 jet fighters in the Soviet Far East. Of these, roughly 167, have a limited all-weather capability and 4% are fully all-weather. The CHINESE have on the order of 2000 fighters with approximately 7% of these having a limited all-weather capability.

The NORTH KORGANS have about 300 fighters of which approximately 3% have a limited all-weather

capability. "

Part IV of this study contains plots of the airfields supporting jet interceptors with the number and types of interceptors located on each field.

CAPABILITIES AND LIMITATIONS OF FIGHTER INTERCEPTORS: Generally speaking, the Communist Bloc countries in the Far East have abundant clear-air-day-dighters. The best operating capability of these air-cair exists between 5,000 and 45;000 feet. Below 1,000 feet, their interceptors will be Teast effective for the following reasons:

a. It is difficult for OCI radars to track a target continuously below 1,000 feet over land or rough water and they are ineffective below 200 feet. It is doubtful that an aircraft below 500 feet could be tracked adequately for OCI control of interceptors.

- . b.: AAl radges are ineffective below 1,000 feet due to ground clutter and terrain masking.
- c. Without CCI assistance it is difficult to acquire a target visually at low altitudes.

During periods of darkness or poor visibility, the insufficient number of all-weather interceptors limits the effectiveness of the entire air defense system.

1.6 ANTI-AIRCRAFT ARTILLERY (AAA).

The significance of AAA in the Sino-Soviet Bloc rests in the fact that AAA together with fighter eircraft operating under LOOSE CONTROL is the chief defense against low-level attack. The importance of AAA will undoubtedly decrease as the new SA-3 surface-to-air missile for use against low-flying attackers is deployed extensively.

PISPOSITION OF AAA; Generally , AAA is deployed in such a manner as to concentrate large numbers in a circular pattern around major cities, industrial complexes, and military installations. The Societa are known to have nearly 3,000 AAA wappons of all types deployed in the Teat. The CHICORS and MORTH EXCELARS operates about 3,500 more? Disposition information appears in the AFIC report AAA Order of Battle Communist Forces, Fer Lest, and in Part IV of this study. The high mobility of the light weapons precludes an accurate order-of-battle or deployment estimate.

report AAA Urder of mattle Communist Forces, Far Last, and in Fart IV of this study. The high mobility of the light weapons precludes an accurate order-of-battle or deployment estimate.

AFARILITIES AND LINITATIONS OF AAA: Medium and heavy fire-controlled AAA is effective between 2,000 and 45,000 feet, but below 3,000 feet, its effectiveness decreases rapidly. Below 500 feet only betrage firing has any capability of destroying the target. It has been calculated that a 100 um anti-aircraft mun firing 10 rounds against an A3 at 30,000 feet has an 6% probability of till. In a 20 second engagement, 85 rounds can be fired by a 100 um battery, and the kill probability rises to 60%. Any decrease in altitude will increase this kill probability until it reaches a maximum at approximately 4,000 feet. Balow this altitude vertical signing angles limit the length of engagement, drawtically reducing effectiveness.

Light anti-aircraft guns, often called automatic weapons, consist of 57 um and 37 um anti-aircraft guns and heavy anti-aircraft machine guns. The 37 um has been largaly replaced by the newer 57 um in the U.S.F.M., but still widely used in the other affectiveness.

Automatic weapons employed without electronic firs-control devices are the primary AAA threat to low-flying aircraft. These weapons can only be used individually with optical control devices in conditions of good Witbility. The effectiveness of weapons employed in this ampare is smally determined as a function of the number of rounds fired by an individual weapon current as the second engagement. Engagements of this type are listed by were the relative movement which exists at close range. A target flying at 500 knots and the same speed at 500 feet may be engaged for eix seconds by automatic weapons, and a target flying at reached the same speed at 500 feet may be engaged for eix seconds by automatic weapons, and a target flying at sead on the assumption that deterion cannot be accomplished before the angle-of-slight up. the larget tracked 10 degrees and

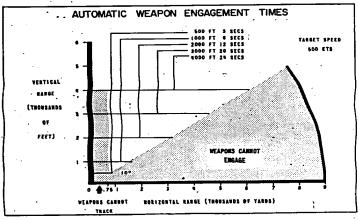


FIGURE 3.

1.7 GUIDED MISSILES

*1.7.1 SURFACE-TO-AIR (SAM). Three known surface-to-air missile systems have been developed by the Soviets: The SA-1 system deployed only around Moscow, the SA-2 system deployed throughout the Soviet Union and satellite countries, and the SA-3 system deployed in limited makers in the Soviet Union. SA-2 sites have been identified in China, principally around Peking, and two sites have been confirmed in North kores at Pyongyang.

The SA-2 system is rapidly replacing medium and heavy AAA in the Soviet air defenses.

Each SA-2 site consists of six reverted launchers arranged in a circular or fan-shaped pattern
500 feet in diameter. At the center of the pattern are wans, also reverted heat the the control radar FAA SONG, a computer, and associated guidance equipment Surveilland. Acquisition radar FAA SONG, a computer, and associated guidance equipment Surveilland. Acquisition radar, designated STOOMMETS, is usually located in the quidance of the six. The CITECTURE CONTROL of the six of the six

The Sa-3 system has been confirmed in the Soviet Far East since the summer of 1962. To data, four sites have been identified at Vladivostok, and three sites at Ussuriyak. Original evaluation of Sa-3 capability assigned a very low altitude intercept capability to the Sa-3 system. This evaluation was based on intelligence derived from observation of the stational development and test facilities and on the obvious need of the Soviets for a low attitude capable system. Deployment patterns and afte locations in some bistances do not appear compatible with the characteristics ascribed to a relatively short-range, extremely low-situde capable system; however no first intelligence pertaining to Sa-3 system components is available to date. The present estigate of Sa-3 system capabilities is listed and will be modified as more intelligence becomes available.

Two SAM sites which do not appear to be either SA-1, 2, or 3 have been established at Petroparlowsk and Ioromaysk. For the present these sites are being carried in a general SAM

CAPABILITIES OF THE SA-2 SURFACE-TO-AIR MISSILE

Maximum intercept range of 300M at 55,000'. Range decreases with an increase of decrease in altitude, resulting in a range of 10-15 RM at 2,000'. RANGE:

SPEED: Maximum speed is approximately Mach 3.6.

Maximum eltitude capability is approximately 60,000° with a limited effectiveness to 100,000°. Minimum altitude coverage may be as low as 1,000° under ideal siting conditions. ALTITUDE:

EFFECTIVENESS: Not effective against low-flying aircraft and has only limited effectiveness against small targets. It is estimated to have a CEP of 110 feet at 25 KM range against a B-52 at 45,000 feet.

ESTIMATED CAPABILITIES OF THE SA-3 SURFACE-TO-AIR MISSILE

Very little information is available on the SA-3. On the basis of the information obtained on this missile system, the following estimated capabilities are derived:

RANGE -Maximum range of 12-15 NM

SPEED: Approximately Mach 2-3.

From a low altitude of 50-100 feet to a maximum of 40,000 feet. ALTITUDE:

CUIDANCE SYSTEM: Continuous wave doppler radar for tracking and a homing guidenace system in the terminal phase of intercept. The tracking radar antenna will be composed of two parabolic reflectors mounted on a tower.

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The following photography shows a typical SA-2 SGM site. The positioning of the missile Leunchers in a circular pattern is typical of all SA-2 SGM sites, however, variations in the road network will cause variations in the appearance of these sites.

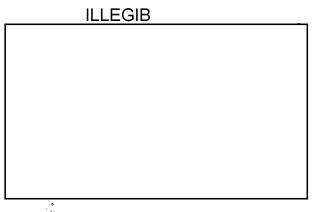


FIGURE 4: SA-2 SAM SITE UNDER CONSTRUCTION

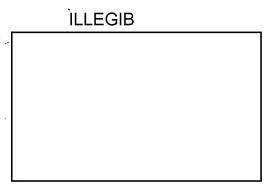


FIGURE 5: TYPICAL OPERATIONAL SA-2 SAN SITE

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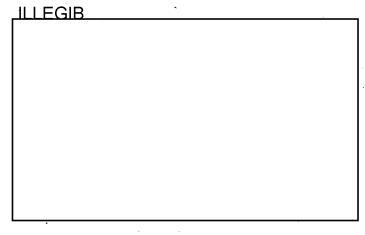


FIGURE 6: SA-3 SITE PHOTOGRAPHED AT ODESSA

An and 3 site at Odessa was recently photographed from low altitude. Preliminary analysis indicates that the site is occupied. The launch pads, guidance area and probable hold area are revetted, and each seems to contain equipment. One fitee of equipment in the guidance area appears somewhat higher than the surrounding revetment and could be the SA-3 guidance radar.

The SA-3 is the third generation Soviet SAM system. Deployment within the USSR was first discerned in 1961, and 47 sites are now believed to be established. Available data are insufficient to permit determination of characteristics or performance capabilities, but the system is probably designed to provide improved defense capabilities at low altitude.

Analysis of the missile guidance radar observed at Odessa indicates that it possibly operates on the track-while-scan priciple used in earlier Soviet SAM systems. If this analysis is valid, the SA-1 system may not be the very low altitude now estimated. However, the meager quantity of pertinent intelligence could be misleading.

In view of the obvious Soviet need for an extreme low altitude defense, and the lack of any indication a new SMH system except the SA+3 is being developed or deployed, the present estimate as carried in the SAMDT must be considered valid for the present.

REVETTED LAUNCH PAD

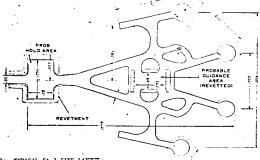


FIGURE 7: TYPICAL SA-3 SITE LAYOUT

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1.7.2 SA-2 LOW ALTITUDE CAPABILITY: The SA-2 system was designed to be most effective in the medium to high altitude ranges. This system, though not designed for low altitude, has some capability against low altitude penetrators. However, it does not appear that most sites have been ideally located for optimum low altitude defense. Cultural and terrain masking occurs to a large extent at a number of sites with elevation obstruction angles of ten degrees or larger in some directions. The capability of the FAN SDNG guidance radar to track low altitude cargets accurately is a complex problem and varies with each site. Under ideal string conditions, such as overlooking an overvater approach or very flat wooded terrain, tracking may be possible to altitudes as low as 500 feet. However, when masking does occur, and this is the usual case, tracking is not possible below the obstruction angle. This is a basic weakness of the system as deployed.

In discussing the SA-2-low altitude capability, the alert status of the unit, and the time-liness and amount of early-warning information are significant factors. Assuming the worst possible case for the attacker, the SA-2 site will have early-warning information from early warning and acquisition radars, the site will be fully alerted and manmed, and the guidance, radar will be slewed in the general direction of the target.

A graphic presentation of the missile intercept capability, based on these assumptions, for a target is flying a course that will pasa directly over the site. Obstruction angles of two and five degrees have been superimposed to show relative position of pickup of the target by the quidance radar FAN SONS. Due to the closeness of the target to the site, the radar reflective area of the target plays no part in the radar detection capability of the FAN SONS. The content of the target to the site of the system to lock on, track the target, launch the missile and the missile light time conditions of the system to lock on. Track the target, approaches at the owe

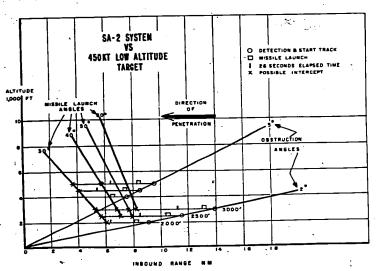


FIGURE 8: SA-2 SYSTEM VS 450KT LOW ALTITUDE TARGET

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<u>PEPLOTMENT OF SURFACE-TO-AIR MISSILES</u>: See page 4.5 and 4.6 for location of all confirmed SA-2, SA-3, and general SAM sites in the Far East.

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"1.7.3 AIR-TO-AIR (AAM): The Soviets have designed several of their new generation inter-ceptors around, and have backfitted some of their older interceptors with AAM's. Although the CHICOMS and NORTH KOREAMS possess alteraft capable of carrying AAM's, they are not estimated to have AAM's at the present time. They will probably rely upon the U.S.S.R. for their future AAM

The following are the currently operational AAM's compatible with the jet interceptors located in the Far East:

a. AA-1 (ALALI): This is a beam-rider missile. Although SPIN CAN, SCAN THREE, SCAN ODD and SCAN AAI radars can be utilized for beam-rider missiles, the AA-1 has been observed only on the FARMER E and the FISHPOT B which are equipped with SCAN CAN and SPIN CAN radars respectively. The launch siteraft is lighted to a lead pursuit tail attack against maneuvering targets. At altitudes below 10,000 faget, the missile must be launched within a 45° angle of the flight path of the target. The FARMER E must be within 2 NN and the FISHPOT B must be within 3.5 - 4.0 NM of the target. The FishPOT B must be within 2.5 when AA-1 is limited at all altitudes and non-existent shows 5.0 0.00 fear.

of the target. The procedure receives the AA-1 is limited at all sittudes and non-existent above \$0,000 feet.

This system is vulnerable to countermeasures in the guidance radar and the missile guidance receiver. When possible, the radar should be jammed to prevent or delay detection. If detected, track breaking techniques should be used.

b. AA-2 (ATOLL): This is an infrared homing missile having a maximum range of 5.5 Nt ha CEP of 10-15 feet and a velocity of Mach 2.0 plus the speed of the lauch aircraft. Its is limited to clear-air conditions. The launch aircraft must be in a lead pursuit attack ha maximum of 2 G's at time of launch. The AA-2 is most effective at high launch siltitudes to the lower air density. It has been observed on the FISHBED C, but may be used with most acceptors. use is with a interceptors.

c. AA-3 (ANAB): This is a semi-active radar homing missile having a maximum range of 7-13 NN with a CEP of 15-20 feet. Its launching aircraft must be equipped with a search radar operating in the X-band and must Launch the missile in a lead pursuit attack. The SINFOT B has been observed carrying this weapon. For fighter aircraft and AMI compatibility, refer to Table II in Part IV of this study.

1.8 TACTICAL CONSIDERATION.

The following summarizes the important factors of the Sino-Soviet Bloc air defense system to be considered in attack mission planning.

1.8.1 DETECTION AND TRACKING. The Sino-Soviet Bloc has the capability of detecting afterest to long ranges and as high altitudes (out to 150-220 NY ranges and above 20,000 feet), but their low-level detection and tracking capability is considered to be a major weakness. It is unlikely that a low-flying afteraft (below 200 feet) will be tracked continuously by an individual site; furthermore, it is unlikely that the GCI system as a whole has adequate tracking capability of attacking alteraft below 500 feet for the GCI control of interceptors. Ground clutter and terrain masking make tracking by pulsed radars extremely difficult at low altitudes; therefore, the attacker gains significant advantage by penetrating at very low altitudes.

For planning purposes, however, detection and tracking should be estimated at or slightly beyond the tadar horizon for flight-altitude. Where fuel reserves provide lagitude in selection of a penetration route, the attacker should select a route where radar range and/or concentration is least.

1.8.2 ANTI-AIRCRAFT ARTILLERY. Medium and heavy fire-controlled AAA is effective between 2,000 and 45,000 feet, but below 3,000 feet its effectiveness rapidly decreases, and below 500 feet, only barrages/firing has any capability to destroy the target. The 57 mm gun in NORTH KOREA and CHINA are the most serious threats against low-flying aircraft.

1.8.3 SURFACE-TO-AIR MISSILES. The SA-2 SAM system, operational in the Far East, was designed for high slittude targets up to 100,000 feet with optimum design slittudes between 20,000 and 40,000 feet. Its estimated minimum slittude capability is 1,000 to 3,000 feet, depending upon siting condition. To take advantage of the limitations of the SA-2 SAM system, an attacker who is forced to pass within the vicinity of an SA-2 site should choose an altitude below 500 feet and/or should take advantage of terrain features which would obscure coverage by the FAN SONG radar.

Until more information becomes available on the new SA-3 missile system, the best recommendation is to svoid SA-3 sites by 12-15 miles which is estimated to be its maximum range.

1.8.4 INTERCEPTORS. The Soviets and their satellites have an abundance of clear-air-day-fighters with an optimum operating capability at altitudes between 5,000 and 45,000 feet. This area of optimum capability must be avoided by attacking aircraft or severe attrition may result. The Soviet interceptors are relatively ineffective below 1,000 feet and are estimated to be completely ineffective below 200 feet.

The all-weather interceptors would experience extreme difficulty in being vectored to attacking aircraft by OCI sites when the attacker is below 500 feet, and their AAI radars which are not equipped with MTI would be ineffective below 1,000 feet.

Since the enemy's ability to eliminate the attacker as threat falls radically when the attacker is over land, the time between detection and landfall should be reduced, whenever possible, to the reaction time of the air defense system required to launch interceptors.

1,8,5 COMMINICATIONS. Another weakness in the air defense system of the Sino-Soviet Bloc is poor communications. Communications limit each control center to a maximum of 5-6 raids; however, the SMDS which is already operational around Vladivostok will raise this inst. Communication facilities existing outside major complexes buy be saturated by a few attacks occurring simultaneously. Course, speed, and altitude changes at random intervals by a relatively small number of incoming raids should overload the circuits.

1.8.6 ELECTRONIC COUNTERMEASURES. The communist countries in the Far East have excellent passive detection capabilities; hence, all electromagnetic radiating equipment should be used sparingly—preferably not at all. \Box

Many of their radars are susceptible to jamming, since they operate in narrow frequency ranges and are not equipped with EDDM devices. The LEDM equipment now being deployed to the Fleet will take advantage of this weakness.

1.9 KORTH VIETNAM AIR DEFENSES.

The Air Defenses of North Vietnam consist primarily of a sizeable Anti-Aircraft Artillery force, augmented by an Early Warning Network consisting of Radar and Visual Observers.

The AAA Force, a component of the North Vietnam People's Army (VFA), is equipped with Soviet equipment and equipment captured from the French. This force received experience against the French, and is considered to be effective under contact conditions. North Vietnam AAA units are equipped with 85mm, 85mm, 76mm, 37mm guns, and 12.7 mm machine guns of Wk II vintage, but considered to be in good operating condition. Sufficient WhiTF and FIRE CMI fire control radar has been located in North Vietnam by ELINT to indicate some medium AAA is redar controlled.

Jet aircraft operations have not been observed in North Vietnam. Presently North Vietnam has some propeller driven training aircraft and some transport type aircraft. Haiphong/Car Bi, Hanoi Gia Land, and Eathhong Kien An arc capable of supporting sustained jet fighter operations. However, there is no GCI in North Vietnam at present due to lack of height finding radar.

Early Warning coverage for North Vietnam is provided by Soviet built RUS and ENIFEREST Radars, and Chiness supplied SCH-270 and one CRGS-SLOT. The serious deficiencies in low altitude, and long range coverage of the RUS and ENIFEREST radars are overcose by the capabilities of the SCH-270. Rowwers, state of operator training, lack of trained maintenance technicians, and poor commiscations contributes to a lesser capability in Early Warning detection than the Communist Chinese possess.

The Air Defense District Headquarters at Hanoi ties together the existing air warning net of deployed radars with the AAA forces. It is probable that North Yietnam is tied into the air defense of Communist China through a communications link between Hanoi and South China.

Aircraft flying at altitude over the Gulf of Tonkin will probably be tracked continuously by the Communist South China Radar Net and sporadically by the North Vietnam Radar Net. Aircraft flying below LOOS feet may be tracked by Chinese Radars if above the radar horizon, but will probably not be detected by the North Vietnam radars. Ground observer posts will possibly detect aircraft flying along the North Vietnam coastline, but are limited by lack of modern communications. Aircraft flying at low altitude over land areas of North Vietnam will not be tracked by the radar net.

RADAR HORIZON NOMOGRAM

2.0 DESCRIPTION AND EXPLANATORY INFORMATION

2.0.1 THE RADAR HORIZON. The theoretical maximum range in free space of a lossless radar system is determined by its pulse repetition rate. For targets near the surface of the earth, however, maximum radar range is ligited by the earth's curvature. This limit is a function of the radar site height, target height, and a corrective factor for atmospheric refraction. The governing equation is derived easily using simple mathematics and an earth having a radius 4/3 its actual measurement to allow for refraction:

(1) R = 1.23 (
$$\overline{h_1}$$
 + $\overline{h_2}$) nautical miles

(1) R * 1.23 (h₁ + /h₂) nautical miles

wherein h₁ is the height of the radiating antenna in feet, and h₂ is the altitude of the target in
feet, The limiting range produced by this equation is known as the radar horizon. The radar horizon
is a theoretical limit. If atmospheric conditions are such that the phenomenon of ducting
occurs, targets can be seen which lie beyond the radar horizon. Furthermore, ground or sea return
may mask a target which is well within the radar horizon. In spite of these defects, though, the
concept is quite useful, and the radar horizon should be considered the locus of possible detection
points, where radar power is of no concern.

As can be seen from equation (1), the radar horizon is independent of the type, power, or
sophistication of the generating radar. It is dependent solely upon the elevations of the radar
and target. At long ranges, and high altitudes, the radar horizon range may exceed the effective
range of low-powered radars by many miles. In such cases it is of significant interest to attack
pleammers to determine a new locus of probable detection positions by supplementing radar horizon
information with radar power estimates. These high altitude loci are generated by using the radar
horizon for the effective range of the radar, whichever is less, Due to the nature of current attack
techniques, this publication does not contain high altitude estimates. Low altitude horizons are
manifected by power considerations, since all Sino-Soviet radars are sufficiently powerful to
reach the required distance.

2.0.2 NONDORAN CONSTRUCTION. A considerable reduction in the time required for solution of equation (1) can be realized by using the following technique: If a problem is governed by an equation of the form F (x, y, z,) = 0, where F (x, y, z,) is a function of three markables x, y, and z, at least one of which is a dependent variable, it is possible to construct an elegant other or chart or nonogram if the governing equation is of the form: $f_1(x) = f_2(y) + f_3(z) = f_3(z) + f_3(z) = f_3(z) + f_3(z) = f_3$

column identifiers and page title permits reproduction as unclassified material.

2.0.3 NOBORMA USE. Part IV of this publication comtains IN charts which have been overprinted with radar horitoms for the myriad radars which dot the Pacific Cosas of the Sino-Soviet Bloc. These horizons have been developed for aircraft slirtudes requirements; the 2,000 foot horizon the So foot horizon was included to satisfy Attack Squadrer requirements; the 2,000 foot horizon was suggested by Patrol Squadrons. If, for some reason, it desired to construct a radar horizon of or some other altitude, this may be accomplished through use of the nomogram. It is also suggested that AI's determine what changes nevly acquired radar sites make in the existing horizons by using the nomogram it is necessary to know two of the three parameters: radar site height, mitroat slittude, and radar horizon range. With any two of these factors known, the third may be toun by simply drawing a line connecting the two known quantities, and reading the third may be toun by simply drawing a line connecting the two known quantities, and reading the third may be it oun by simply drawing a line connecting the two known quantities, and reading the third map are the sine fine trader that the appropriate scale.

In plotting horizons based upon newly acquired 508, it is necessary to determine a site height for the radar. Normally the publishing activity will assign a 'live accuracy' or error-in-position for each site reported. Quite often within the fix accuracy stated terrain elevations from the radar horizon, a problem exists. It has been the policy of the Fleet intelligence Center to choose the most probable location having the highest elevation within the fix accuracy stated. This technique is recommended since all errors are automatically on the high side; and the estimated radar horizon will nost probably lie beyond the actual horizon.

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NOMOGRAM FOR FINDING RADAR HORIZONS

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STRIKE PENETRATION AND AAA TEMPLATES

3.0 DISCUSSION OF THE STRIKE PENETRATION TEMPLATE.

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The Strike Penetration Templates distributed to the Fleet provide a graphic solution for the problem of possible points of interception. The solution is not exact, since templates are constructed for assumed conditions, Under most circumstances the template solution is sufficiently accurate to varrant its use, and moderate familiarity with the assumed conditions will permit mental correction for deviations. Detection position and fighter employment do not enter into construction of the templates, but these factors are essential parts of the overall problem.

1.0.1 PREPARATION PHILOSOPHY. In order to provide an exact graphical solution to the intercept problem, it would be necessary to know the specific conditions that will exist at the time that the mission is flown, or to take an unlimited number of templates covering all possible conditions. Unless assumptions are made to narrow the scope of the problem, solution is impractical.

In making limiting assumptions, errors are automatically introduced into the solutions, since it is highly unlikely that all of the assumed conditions will correspond enactly to the conditions at the time of the mission. It is necessary that the errors introduced be reasonable and "safe"; that is, they will tend to predict intercept earlier that it probably will occur. Safe errors will be tolerated. Unsafe errors will be tolerated only if small, or if no alternative exists.

3,0,2 ASSUMPTIONS. In the paragraphs to follow, the assumptions made, and their effects upon the problem will be discussed.

The templates were prepared for use with JN Charts. Since scalar (a) ...ALL. ine templates were prepared for use with JN Charts. Since scalar distances vary with latityde on these charts, it is necessary to choose a latitude for measurement purposes. Customarily 40° latitude issued for this purpose. The templates are accurate, then, only at 40°. The error introduced in using the templates at another latitude is small (25NM at 40° vill be 25,4NM at 45°, 24,4NM at 35°, 24NM at 30°) and can safely be ignored.

- (b) REPRODUCTION. A second scaling error can occur on reproduction. The originals are prepared on linen which are reproduced on ozalid transparancies. Although care is taken to assure 1:1 reproduction, variation from the original can occur. Such variation is small enough to be negligible.
- (c) FIGHTER PERFORMANCE. Although attacker performance characteristics are knewn in each case, fighter performance will depend upon assumptions made concerning configuration and power setting. With these assumed values, it is possible to consult ATC handbooks for the various fighters and determine values for True Airspeed, Time-to-Clinb, and Distance-Traveled-During-Climb. These assumptions are the most significant and difficult associated with the problem. It would be possible to choose one of the ML SPEC intercept solutions, however nome of these solutions fails in line with estimated fighter employment under all-out war situations. These latter estimates predict markinum effort for Cestruction as far as possible form principal targets. If it is assumed that the fighter is clean and uses maximum power at all times during intercept, any error introduced is SAF and the interception positions predicted will be maximum range estimates. These assumptions have been adopted for construction of the templates.

(d) GCI CONTROL. The normal ground controlled intercept involves a collision course for the fighter on only part of the intercept. It is basic to solution, however, to assume that the controller directs a collision course throughout the intercept. The error introduced in making this assumption is SAFE, since intercept will occur later than predicted on any other than a collision course.

collision course.

(b) NIND ERROR. The wind existing at time of attack cannot be forecast. It would be possible to assume a vorst-wind condition based upon analysis of available records. This assumption would be in line with the preparation philosphy; however, solutions generated using this assumption would be invalid a greater percentage of the time than would be the case if it were assumed that no-wind conditions exist. If the latter assumption is adopted, an error is introduced which can be quite significant when long range and strong units are involved. If there is a component of wind which increases the attacker's net ground speed, the error is INSAFF, and will be a maximum when the attacker is flying directly into the wind, and the intercept of its liying directly downwind. The amount of this error may be found by taking the product of the ratio of wind velocity to closing speed and the initial no-wind intercept distance. The angitude of the INSAFF error generated when high winds and long range are involved may be greated through example: Suppose that there is a 100 into wind blowing along the intercept path. A FARMER is flying at a true aftered of 185 knots directly downwind. An oncoming ADD is flying directly into this wind at a true afterped of (50 knots.) The initial separation is 175 nautical siles. The no-wind extinate will be in error by (200/1633) (175) = 21.6 nautical siles. Under normal conditions the low altitude penetrator can expect wind errors of less than 2 nautical siles. In light of the above, a no-wind solution has been made.

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(f) REACTION TIME. The reaction time of a fighter defense net is defined to be that time which elapses from initial detection of a target until an interceptor is scrambled. This delay time is significantly dependant upon state-of-readiness, and system sophistication. CNO's current estimate of this delay time in the Far East is from 6 to 9 minutes. Upon incorporation of the Sowiet Semiautomatic Air Defense System (SADS) into the fighter defense net a sewer reduction in this reaction time can be expected. In construction of strike penetration templates now in the Ficet, the lesser present capability has been chosen.

3.0.3 OTHER CONSIDERATIONS. Certain intangible factors which are difficult to predict enter into the overall problem of interception position. Chief among these are the probable position of detection and fighter employment techniques.

- (a) DETECTION POSITION. The exact position at which detection will occur is not foresecable by the attacking pilot. Since rigorous solution of this problem is not possible, it is notessay to resort to probabilities and generalities. There are a number of "if's" involved in the
 following statement, however it is thought to be the best advice available. As a first order estimate of detection position the low-sittude awistor should use the radar horizon for his slittude.
 So doing will insert a factor-of-safety in that the odds are nearly four to one that detection will
 not occur until he is within the horizon. It is necessary for the high-slittude pretator to make
 a second order estimate using radar power limitations to reduce radar horizon figures where applicable.
- (b) FIGHIER EMPLOYMENT TECHNIQUES. Soviet procedures for the manual (non-data link) control of interceptors do not differ significantly from Western procedures. These techniques may be categorized as: Close Control, Louse Control, Broadcast Control, and Barrier or Combat Air Patrol Control. Under CLOSE CONTROL the CCI controller instructs the pilot as to heading, appead and altitude to fly, relative bearing to the target, time to go, and other necestry data to permit the pilot to detect the target and convert to a firing pass. LOOSE CONTROL is essentially a degraded form of close control under which the controller transmits to airborn interceptors information on enemy forces to include raid number, positions, headings, velocity, and altitude, leaving to the formation leaders the problem of mayingtion to the target area and effecting contact.

 RECADCAST CONTROL is a desperation tactic which is a degraded form of loose control. Information broadcasted on the position, velocity, heading or altitude of the threat is of poor to unknown validity, and may be based on nothing more than interpretation of jamming strobs. BARRIER or COMMAT AIR FATROLS are often used by the Soviets to guard specific targets or approaches to targets. Under this technique formations are positioned over reference points and kept in the desired area to awair, the enemy. This procedure is especially valuable in reducing system reaction time against high speed penetrations. The very high density of Soviet interceptor units in many areas of fests the economical disadvantages of this tactic and permits high utilation of the total force.

 With the foregoing summation of techniques in mind, it is easily seen that the Strike Penetration Template solution of intercept position will be invalid for Barrier or Combat Air Patrol types of countrol, since these techniques involve airborne fighters. It is not possible to predict either the rendervous points which might be used in conjunction with this control technique or the arroas for countrol, since these

- 3.1 STRIKE PENETRATION TEMPLATE CONSTRUCTION. The purpose of the following paragraphs is to describe Strike Penetration Template construction in sufficient detail to permit Template preparation at the local level.
- 3.1.1 ESSENTIAL INFORMATION. Prior to attempting construction it is necessary to have available the following information:

 a. An estimate of System Reaction Time. System reaction time is defined in paragraph 3.0.2
- b. The True-Airapeed, Time-to-Climb, and Distance-Traveled-During-Climb figures for the interceptor aircraft.

 C. The True-Airapeed of the attacking aircraft.

- 3.1.2 CONSTRUCTION DETAILS. Proceed as follows:

 1. Lay off a reference line parallel to the major dimension of a 17%22" sheet of frosted acctate, Label this line "Mtsacker's track line". Place an arrow on the left hand extremity of this line to indicate the direction of travel.

 2. About 6" from the right-hand end of this line establish a reference point.

 Label this point zero (6).

 3. Compute the distance in nautical miles traveled by the stracker in some convenient time interval (Suggested: 3 minutes). Using a JN chart, at 40°L, for scaling purposes, pick-off this computed distance with dividers. Working both directions from point zero with the dividers, lay off a time-distance scale. Label the points thus established with their associated times. Label times to the left minutes after zero.
- 4. Add the estimated reaction time to the fighter's time-to-climb. Locate this time on the attacker's pre-zero track, mark it with an arrow, and label this arrow "Estimated Detection Point".

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5. Using the fighter's distance-traveled-durin-climb as a radius, scribe a circle about point zero. Label this circle zero.

6. Compute the distances traveled by the fighter at intercept true airspeed during the time intervals closen in step 3. To EACH of these distances add the distance traveled by the interceptor during climb. Using these sums as radil, scribe circles about the post-zero points along the attacker's track line which correspond to the time intervals used in calculation. Label these circles with appropriate times.

7. Construction is now complete. Label the finished overlay prominantly with the construction parameters: Types of attack and fighter aircraft, airspeed, altitudes, and so forth.

3.1.3 USE. Use of the template is as follows:

a. Place the template on a JN chart which has been overprinted with the necessary intelligence in such fashion that the Attacker's Track Line falls along the proposed trute and the Estimated Detection Point falls on the radar horizon or chosen detection point.

b. The Attacker will make good the distance from the istimated Detection Point to the Point marked "0" during the time which elapses while the defense net reacts and the fighter climbs to intercept actitude.

c. Fighters (of template type) located at airfields falling on numbered circles will intercept the attacker at similarly numbered points along the attacker's track. Interpolation may be accomplished in standard fashion.

3.2 THE FLAK TEMPLATE.

3.2.1 TEMPLATE CONSTRUCTION. While construction of these templates is relatively simple, the process is sufficiently detailed to preclude adequate discussion in this publication. Anyone destring construction details may request this information from the Commanding Officer, fleet Intelligence Center Pacific.

3.2.2 TEMPLATE DESCRIPTION. The flak templates currently in the Fleet have been prepared for with the 100,000 chart. They have been prepared for various altitude-weapon combinations; ally the highest and lowest effective slittleds of the weapon have been closen.

The flak template provides order-of-magnitude information concerning intensity of fire along a given flight path. The intensity cited is on an arbitrary scale, and those scales differ free template to remplate. The relative intensities which appear on one template are no not as comparable to those which appear on templates constructed for any other altitude or weapon.

The centerline of the template defines the flight path of the aircraft, and the cross. "R.G.Z.", defines the intended point of impact of the weapon carried. It is assumed that the aircraft does not proceed past the R.G.Z. The distance from the R.G.Z to the arc marked "O" effective range of the weapon-mainting combination for which the template is constructed.

No weapon which lies on or beyond the "O" arc, or its vertical appendages, has the capability to reach the attacker. Weapons which lie on any other arc or appendage have capabilities whose relative effectiveness is numerically indicated. It is necessary to interpolate for values of effectiveness assignable to weapons which lie between lines.

3.2.3 TEMPLATE USE: THE FLAK CLOCK. Since the flak template provides only relative information, it is useful only for comparative purposes. The "Flak Clock" is the graphic normally prepared for flak intensity comparison. Construction is as follows:

(a) Locate the R. G. Z. on a 1:100,000-chart of the target area.

(b) Plot the positions of all AAA weapons within the target area.

(c) With the R.G.Z. as a center, construct a circle of any desired radius and divide this circle into equal sectors of reasonable size. A ten mile radius and 30° sectors are suggested values.

suggested values.

(d) Place the flak template for the desired caliber over the chart in such fashion that the R.G.Z. of the template falls over the R.G.Z. marked on the chart and the flight path on the template falls along one of the sector dividers.

(e) Record for each inhound heading the sum of the products of weapon number and intensity. For example, suppose that for a given inhound heading three batteries fall within the template boundaries. One of these batteries has five weapons whose relative intensity is 2.5, a second has att weapons having a relative intensity of 3.1, and the third has thirteen weapons which have an intensity of 4.3. The total intensity figure for that inbound heading, then, is 37.0.

The technique outlined above will produce a table of relative intensities versus inbound headings. Flak clock construction is completed by shading a sector around each inbound heading to a degree proportionate to the computed relative intensity.

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KAT IV

TABULATED INFORMATION AND GEOGRAPHIC LOCATIONS OF INSTALLATIONS

4.0 DESCRIPTION AND EXPLANATORY INFORMATION. The following publications are the principle source documents for graphic orders-of-battle in this report.

ELECTRONIC: Electronic Order of Battle, Communist Forces, Far East (C), (PACOMAIS NO. 4A)
ANTI-AIRCRAFT: AFIC Report, R-21, AAA Order of Battle, Communist Forces Far East.

SURFACE-TO-AIR MISSILES: Target Data Inventory (TDI)
AIRFIELDS: CINCPACELT "Basic Intelligence Study Communist Countries, Far East".

4.0.1 Graphic Construction. The CINCPACELT region of responsibility has been divided into smaller areas as shown on the chart on page 4.7. Four separate plots have been constructed for each of these areas depicting the geographic location of: Early Warning Radar installations, Ground Controlled Intercept Radar installations, Anti-Aircraft Artillery, and Surface-to-Air Hissile installations, and Airfields supporting jet interceptors.

Where a graphic has been omitted, it may be assumed that there is no equipment of that type delpoyed on the area. For example, there is no airfield plot included for Area 15. This commission does not imply that there are no airfields in the area, but that the existing fields do not support jet-interceptor operations.

Because of the paucity of equipment and air defense installations in the Far North, all of the air defenses are depicted on one 1:5,000,000 scale chart. Because of the heavy concentration of AAA and SAM sites in the Vladivostok area, a separate SAM plot has been included on a 1:500,000 scale chart.

(a) Early Warning Radar Plots (EW Pages). In most cases the positions of radar installations are given a fix accuracy by the publishing command. PACOM AIS NO. 4A may, for instance, give the latitude and longitude of a station, and state that the fix accuracy is 20 miles! This lesses to the plotter the problem of exact position. This problem is of more than cases! interest; since, within the fix accuracy stated, elevations exist which can cause large differences in the range of the radar horizon. In this publication the location having the highest elevation within the fix accuracy stated has been chosen. So doing will, in most cases, introduce a safety factor in the radar horizon. No attempt has been made, except for obvious cases, to correct for radar bilind areas in the radar horizon overplots.

The radar horizons on these graphics are line-of-sight horizons and are not dependent upon radar parameters. Once an aircraft has crossed the horizon, the chances of its being detected by the Sino Soviet Bloc are extremely high. These horizons apply to all sizes of aircraft.

- (b) Ground Controlled Intercept Radar Plots (GCI Pages). These plots show the location of all radars capable of bring used in a CCI role. It has been assumed that the colocation of an early warning and a height finding pair is indicative of a CCI site. In most cases, however, intelligence is not available to show that sites so indicated are actually used for this purpose. The CCI plots contain estimated effective CCI ranges for intercept of A3 and A5 increase flying above the radar horizon. The ranges are based upon the performance parameters of the least effective radar in the CCI site. No attempt has been made to correct for site location or radar blind areas.
- (c) Anti-Aircraft Artillery and Surface to Air Missile Plots (AAA/SAM Pages). These plots show the locations of all known AAA and/or gun-laying radar sites. Only those sites which have been observed are included, except where, because of the strategic inportance of the area and the general lack of information, AA weapons have been arbitrarily positioned. The reader is reminded that machine guns, which are not shown, undoubtedly exist in the vicinity of major targets.

 Fire control radars confirmed by ELINT are plotted on these graphics even though an XAA site is not known to exist in the vicinity. Since a gun-laying tadar is ordinarily sited with AAA, it can be assumed that AAA exists near each fire control radar.
- (d) Airfield Plots (AF Pages). The airfields shown are those which are known to be supporting jet interceptor operations. The aumber and types stationed at each airfield is depicted through a coding technique. The seaward radar horizon of the early warning plots have been duplicated on the airfield plots for use in conjunction with the strike penetration templates, as recommended in paragraph 3.1.3.

 When information is available, the model designation of interceptors is included; for example, FRESCO D will appear as FC-D on the plot.

- (e) Air Defense Plot. Due to the sparcity of air defense installations in the Far North the air defense information has been incorporated into one Air Defense Plot for each of these areas. A 15,000,000 scale chart was selected as the base map for the Far North area and cannot be used with the Strike Penetration Templates now in the Fleet.
- (f) High Early Warning Radar Boundaries. The early warning radar boundaries appearing on this page are based on the capabilities of the most effective early warning radar against both large and mail reflective targets. In using these boundaries, it must be kept in mind that they describe the theoretical points of first detection of afteraft flying at 30,000 feet. The radar boundary is not definite, but will vary with target aspect, radar operator ability, atmospheric conditions, and other variables affecting radar performance.

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4.1

TABLE I CHARACTERISTICS OF THE PRINCIPAL SINO-SOVIET RADARS (FAR EAST)

SET HAME	FREQUENCIES	HTI*	ANTI-JAM DEVICES*	MAXIMUM EFFECTIVE	PANCE AT 30 000 1	
SET RAPE	PREQUENCIES	mir.	ANTI-JAR DEVICES	A-3	A-4	LE
BAR LOCK/ CROSS OUT	2704-3120 mcs	YES	YES	220 NH	220 NH /	
BIG MESH/ BIG BAR	563-3112 -cs	YES	YES	220 NM (GCI: 168 NM)	180 NH (GCI: 80 NH)	
CROSS FORK	206-220 mcs	190	LIMITED	100 KM	70 NM	
CROSS SLOT	2970-3040 mcs	NO .	NO	160 KM	120 NH	
FLAT PACE	805-905 wcs	YES"	YES	1B0 KM	140 NH	
HI DUMBO	68-75 mcs	190	NO	110 KM	70 1 2 4	
INIPE REST A	70-74 mcs	20 ·	LIMITED -	110 KM	70 NM	
EXIFE REST B, C	78-105 mcs	NO	LIMITED	120 NM	72 NH	
HOOSE CORE	9020-9435 mcs	UNIONOWN	UNKNOWN	300 KM	230 NM	
SCR 270 DA	90-112 mcs	190	NO	220 NH	220 KM	
SO/BREROUSE .	2790-2835 mcs	NO	но	NONE 2	NONE	
SPOON REST	150-157 mcs	NO	NO	200 NH	150 KM	
SPOOM REST B	83-85 mcs	.100	NO	200 NM	150 KM	
TACHI 18	90-112 mcs	Ю	NO	100 %	70 KM	
TALL KING	168.5-173.5 mcs	POSSIBLE	YES	300 124	230 KM	
TOKEN/SLANT HESE STRIKE OUT	1/2700-3120 mcs	190	LIMITED	160 KM (GCI: 111 KM)	120 NM (GC1: 60 NM)	
B. HEIGHT FINDS	R RADARS:		•			
ROCK CAKE	2600-2650 mc s	NO	LIMITED	180 KM	100 ഷ	
STONE CARE	2600-2830 mcs	NO.	LIMITED .	210 NH	150 KM	
SPONGE CARE	2600-2830 mcs	YES	UNIONOWN	210 NH	150 KM	
SIDE NET	2615-2626 mcs	UNKNOWN	UNKNOWN	300 KM	230 104	
C. FIRE CONTROL	RADARS:			HAXIMIN RANGES (P		
BEAM TRACK	200-220 mcs	190	ко	SEARCH 21 NM	TRACK 15 NM	
FAN SONG A,B,D	2965-3050 mcm	UNKNOWN	POSSIBLE	65 KM	33 NM	
FAN SONG C,E	4925-5090 mcs	UNKNOWN	POSSIBLE	75 KM	35 NH	
FIRE CAN/ FIRE WHEEL	2685-3040 mc s	TES .	YES	43 NM	20 NH	
WHIFF.	2700-2880 mcs	NO	YES	35 RM	16 KM	
D. AIRBORNE ALI	D-TO-INTERCEPT RAI	ARS:	USE	MAXIMUM RANGES SEARCH	TRACK	•
SCAN FIX	2750-2850 mc#	RANGE ONLY		0 104	3 NH	
SCAN ODD	9320-9420 mcs	SEARCH AND	TRACK	5 NH	3 NM	
SCAN ODD (MOD)	9320-9420 mcs	SEARCH AND	TRACK	5-7 NM	2-4 NH	
SCAN THREE	9320-9420 mcs	SEARCH AND	TRACK '	12-16 KM	8-16 NM	
SCAN CAN	9320-9420 mcs	SEARCH AND	TRACK	B NM	6 NM	
SPIN CAN .	9320-9400 mcs	SEARCH AND	track in Newer A/C	10 KM	7 NM	•
HIGH FIX	9365-9430 mcs		IN HIGH PERFORMANCE A/	C O NH	3 101	

 $[\]star$ - MTI and ANTI-JAM DEVICES installed on radars are estimates.

(1) Limited All-Weather capability indicates that a night-intercept capability exists in clear air.

(2) TAKE-OFF and accelerate to best climb speed with military power; climb to best cruise slittude with military power; cruise out at speed for best range at best cruise slittude dropping tanks when empty; climb to combat ceiling with max, pur.; combat at combat ceiling cruise back at speed for best range at best cruises slittude.

(3) See TABLE I, Page 4.2 for operating characteristics of AAI radars.

(4) GUN ARMAMENT: TYPE

(5) NO - Not compatable with aircraft and/or guidance equipment.

POSS - Compatable with aircraft and guidance equipment, but not likely to be fitted on type aircraft.

PROB - Compatable with aircraft and guidance equipment and might be installed on type aircraft.

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YES - Hiasile has been observed installed in type aircraft.

	•				1/	are iii .					2
				CIL	ARACTERISTICS OF	ANTIAIRCRAFT ARTIL	LERY .				SCORT.
CALIBER (mm)	NONENCLATURE	HORIZ RANGE (ydm)	WAX VERT RANGE (ft)	EFFECTIVE CEILING (ft)	WEIGHT, TYPE OF PROJECTILE (lbs)	PATE OF FIRE (FPm)	MUZZLE VZLOCITY (ft per sec)	TRAVERSE TOTAL (deg)	ELEV LIXITS (deg)	WEIGHT (Lbs)	Remarks
12.7	12.7 - um DShK Heavy Machine Gun, H1938/46	7,650	11,500	3,000(1)	0.10, AP	80 per barrel	2,800	360	-10 83	397 -	Standard on T-54 tank and ACP's
14.5	14.5 ZPU-1, ZPU-2, ZPU-4 Hechine Gun	9,500	14,300	3,500(1)	0.12, 102	80 per barrel	3, 300	360	-10 85	1,000 (ZPU-2)	Single, duel, and quad mount
37 .	37-m Gun H-1939	8,800	19,800	9,850	1.61, HZ	160	2,900	360	5 85	4,620	Being Phased Out in Russia, still widely used in China
57	57-mm Auto- matic Cun 8-60	14,300	25,000	16,000(2)	2.8, FOZ	130	1,300	360	-10 90	7,840	and other Communist-supplied countries. Twin, self propelled version also in use, known as ISU- 57-2.
83	85-mm Anti- aitcraft Gun H-1939			27,500	20.3, 102	15-20	2,600				Radar Fire Control
85	83-mm Anti- mircraft Gun H-1944	17,600	39,400	30,000(4) 34,000	20.3, 102	15-20	3,000	360	-3 85	10,750	Radar Fire Control
100	100-mm Anti mircraft Gun	23,000	50,000	35,000	34, HZ (5)	15-20	3,000	360	-3 85	24,250. (3)	Power Laying and Radar Fire Control
1 30	130-mm Anti aircraft Cun	27,000	60,000	39,000	74, 102 (3)	15	J,000	360	-5 60		Radar Fire Control

(1) Did is considered to be the effective bitting tange with optical alghts and visual observation of the tracers.

(2) 6.000 fc. is the estimated effective celling using convergings sights.

(3) 6.000 fc. is the estimated effective welling using off-certing scales (free control. ISO-57-2 down not have off-certings first control.)

(4) begins in Circumposition.

(5) Engagement of 400 kt oncoming homber for 20 sec time of first.

(6) Trainity forum are believed to be available.

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DEPLOYMENT OF SAMS.

SA-2 Surface-to-Air Missiles are still deployed extensively throughout the Soviet Bloc. The following confirmed SA-2 SAM sites are of concern to Naval Forces in the Far East. Existing sites which are not listed herein fall outside of the area depicted on the inside front cover of this publication.

PLACE

COORDINATES

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PLACE				COORDINATES
BARANO OREN	÷ .			44-27N, 131-35E
BARANO OREN				
BARANO OREN				44-03N, 131-24E
BARANO OREN				44-26N, 131-22E 44-10N, 131-45E
CHERNI GOVKA			•	
CHERNICOVKA			*	44-11N, 132-316 44-12N, 132-11E
CHERNY SHEVKA				
DALNAYA	ı	•		44-11%, 133-05E
DOSTOYEVKA				45-56N, 142-04E
KHABAROVSK		4		44-21N, 133-30E 48-19N, 134-52E
KHABAROVSK		•		48-36N, 135-08E
KHABAROVSK.				48-29N, 135-30E
KHABAROVSK	,		+	48-11N, 135-08E
KIYEVKA				42-53N, 133-40E
KOHSOMOLSK				50-24N, 137-22E
KOHSOHOLSK				50-42N, 136-53E
KOMSOMOLSK				50-43N, 137-11E
KOMSOMOLSK	l			50-24N, 136-55E
KOR SAKOV	1			46-37N, 142-49E
MAGADAN	1			59-31N, 150-56E
MAGADAN	I .	♂ `		59-45N, 150-48E
NAKHODKA				42-55N, 133-07E
NAKHODKA		•		42-55N, 132-31E
NAKHODKA	1			42-50N, 132-47E
NAKHODKA	•			42-42N, 133-02E
nikolayevsk	f.			52-51N, 141-13E
NIKOLAYEVSK				53-10N, 140-44E
NIKOLAYEVSK				53-03N, 141-14E
novosy soyevka	1			43-50N, 133-16E
NOVOSYSOYEVKA				44-10N, 133-57E
OLGA				43-48N, 135-21E
OLGA				43-59N, 135-31E
PEI PING	İ			39-48N, 116-42E
PEI PING		4.5		39-39N, 116-23E
PEL PING				40-09N. 116-18E
PEI PING	L			39-51N, 116-09E
	KAMCHATSK			53-05N, 158-52E
	KAMCHATSK			52-55N, 158-45E
	KAHCHATSK			52-54N, 158-38E
	KAMCHATSK			52-53N, 158-37E
	KAMCHATSK			53-03N, 158-18E
	KAMCHAT SK			 53-20N, 158-11E
	KAMCRATSK			52-45N, 158-29E
PORONAYSK	- E			49-24N, 142-52E
PYONGYANG PYONGYANG				38-46N, 125-51E
RAZDOLNOTE	1			39-12N, 125-40E
SERNOVODSK	'			43-35N, 131-59E
SHIH MEN				43-47N, 145-31E
SOVETSKATA CAV	lu.			38-05N, 114-25E
SOVET SKAYA GAV				49-11N, 140-19E
SOVETSKATA GAV				48-57N, 140-05E
SOVETSKAYA GAV				48-59N, 140-23E
SUCHAN	r			48-49N, 140-13E
TE HSIER	l .			43-18N, 133-20E
UGOLATY	l			36-30N, 116-08E 64-49N, 177-26E
USSURITER	j			43-54N, 132-03E
USSURIYSK	1			 43-55N, 132-26E
VLADEVOSTOK .	I		,-	
VLADIVOSTOK	ĺ	•		43-03N, 131-36E
VLADIVOSTOK	1			43-10N, 132-20E 42-59N, 131-55E
VALDIVOSTOK	1			43-00N, 131-48E
VLADIVOSTOK	1 1			43-03N, 131-50E
VLADIVOSTOR	•			42-52N, 132-20E
VLADIVOSTOK				
VLADIVOSTOK				42-46N, 132-21E 42-50N, 131-17E
				Jon, 131-17E

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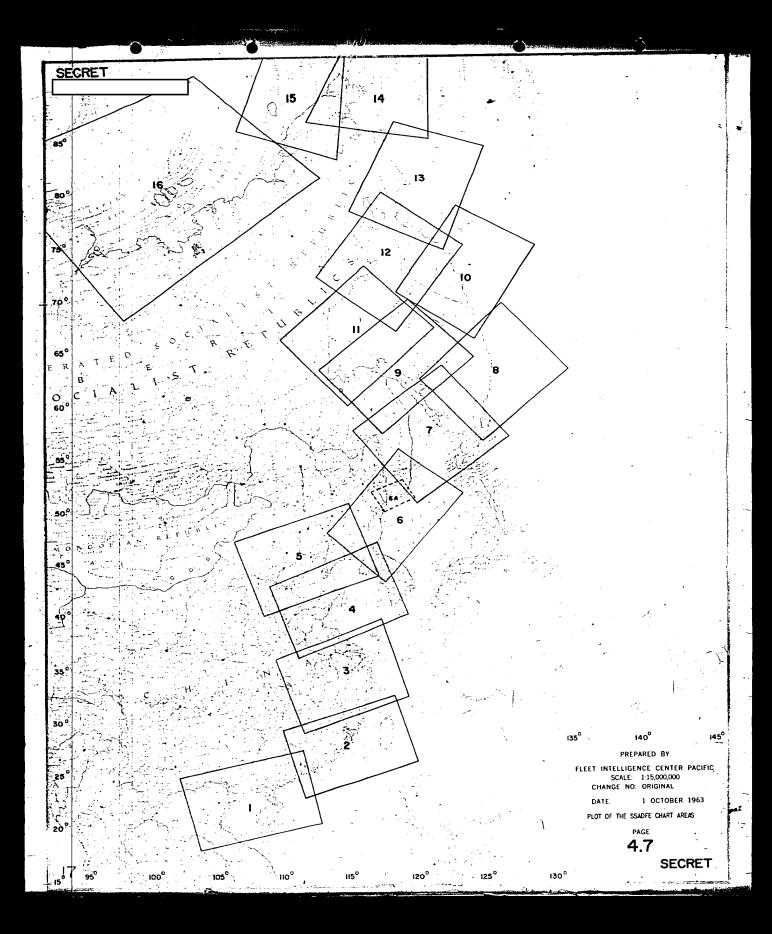
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TOTTOGLIG EL P BELGE HELE FETT		
PLACE		COORDINATES
USSURIYSK USSURIYSK VLADIVOSTOK VLADIVOSTOK VLADIVOSTOK VLADIVOSTOK VLADIVOSTOK VLADIVOSTOK	±	44-01N, 132-31E 43-53N, 132-17E 44-01N, 132-12E 43-08N, 132-03E 43-02N, 131-33E 42-58N, 131-54E 42-59N, 131-48E

COORDINATES PLACE 53-03%, 158-18E 49-07%, 142-57E PETROPAVLOVSK KAMCHATSK PORONAYSK

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4.6



EARLY WARNING RADAR PLOTS (EW PAGES) EARLY WARNING (EW) RADAR Δ EARLY WARNING / GROUND CONTROLLED INTERCEPT (GCI) RAMAR THEORETICAL RADAR HORIZON
FOR AIRCRAFT AT 50' ALTITUDE,
COMPUTED USING ESTIMATED
ELEVATION OF RADAR SITES UNICHOUN BK "BKDQ" (CHINESE) . BL MR LOCK RADAR COVERAGE BY A SINGLE RADAR DUMBO RADAR COVERAGE OF THE SEAWARD APPROACHES BY THO RADARS 77 FLAT FACE FR YORK REST RADAR COVERAGE OF THE SEAWARD
APPROACHES BY THREE OR MORE RADARS TACHI 18 HI JAP HK I KHLYEREST JAP MK I HOD 3 / JAP TYPE III ' SH SLANT HZSH (3) 80 SO/REE HOUSE 6 R SPOON REST TOKEN x CROSS SLOT CROSS FORK X7

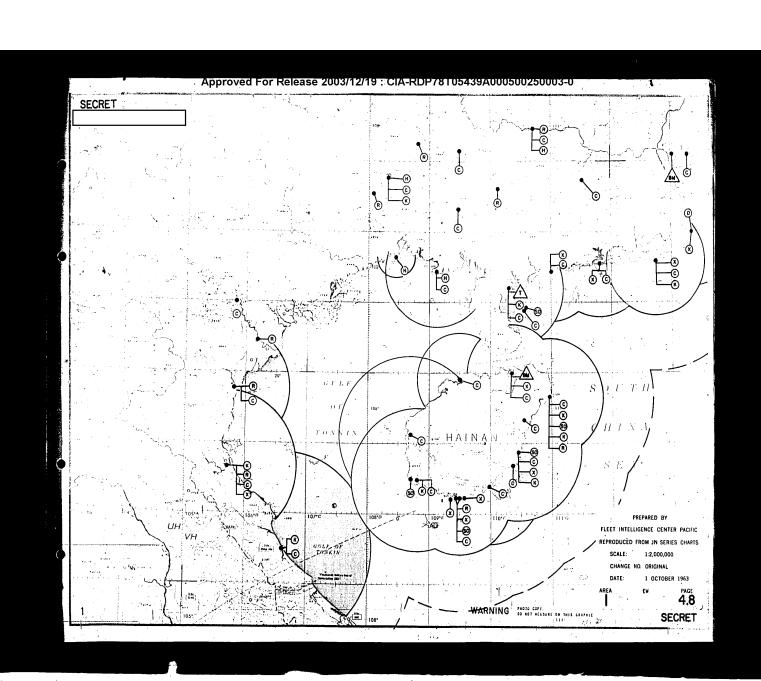
GROUND CONTROLLED INTERCEPT RADAR PLOTS (GCI PAGES) Δ EW/GCI RADAR EW RADAR CO-LOCATED WITH HEIGHT FINDER (HF) RADAR TO FORM GCI UNITS θ RC. ROCK CAKE STORE CAKE SK S PONGE CAKE ESTIMATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-3
AIRCRAFT FLYING ABOVE THE RADAR HORIZON. ESTIMATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-4 AIRCRAFT FLYING ABOVE THE RADAR HORIZON. THE GCI MANCES ARE ESTIMATE DADED UND ASSISTED CONDITIONS WHICH SHOULD APPROXIMATE THE PROBREE EFFECTIVENESS OF BOUTULAL ADARS AND CONSIDERANCY HAS MODIFUL ASSISTANCE OF THE ADARD ASPECT. THESE RANCES PROCESSOR CONSIDERANCY WITH TARGET ASPECT, HA ALL OSSIS, ARRESTED HE DETECTED BY EV RADARS PRIOR TO RACHING HE GCI HORIZON. RADAR COVERAGE BY A SINGLE RADAR RADAR COVERAGE OF THE SEAWARD APPROACHES BY TWO BADARS RADAR COVERAGE OF THE SEAVARD APPROACHES BY THREE OR HORE RADARS

AIRFIELD PLOTS (A/F PAGES) LOCATION OF AN AIRFIELD PRESENTLY SUPPORTING JET INTERCEPTORS THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 50' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES YB FISHED FC FRESCO FC-D FRESCO-D TG TH PISHPOT rl. FLASHE ICHT 711 YARER

PT

⊕ CONFIRMED SA-3 SITE . * 6 GUN LAYING RADAR O · SEARCH LIGHT CONTROL FIRE CAN FIRE WHEEL ВТ BEAH TRACK SUNVISOR 57 WILLER AAA SITES HEDIUM AAA GUNS (76-100mm) 0 HEAVY AAA GUNS (101mm and above) NUMBER WITHIN SYNGOLS DENOTES TOTAL CURS AT SITE : 1-

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EARLY WARNING RADAR PLOTS (EW PAGES) EARLY WARNING (EW) RADAR EARLY MARNING / GROUND CONTROLLED INTERCEPT (GCI) RADAR Δ THEORETICAL RADAR BORIZOS FOR AIRCRAFT AT '0' ALTITUDE, COMPUTED USING LETTRATED FLEVATION OF RABAR SIYES BAR LOCK -- THEORETICAL RADAR HORIZON FOR ATBORAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED ILLUATION OF RADAR SITES вн BIG HESH SCR - 270 DA RADAR COVERAGE BY A SINGLE RADAR FORK REST 72 MADAR COVERAGE OF THE SEAGARD TACHI 18 HIGH STEVE JAP HK I HOD 3 / JAP TYPE III HI-DUMBO SLANT HESI 50 SR SPOON REST TOKEN 0 TALL KING TK CROSS SLOT CROSS FORK

EW/CCI RADAR Δ EW RADAR CO-LOCATED WITH HEIGHT FINDER (NF) RADAR TO FORM GCI UNITS θ ROOK CAKE STORE CAKE sc STORGE CAKE SIDE NET SEE EW LEGERD FOR EARLY WARNING HADAR ABBREVIATIONS ESTIMATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-3 AIRCRAFT FLYING ABOVE THE RADAR HORIZON, ESTIMATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-4 AIRCRAFT FLYING ABOVE THE RADAR HORIZON. AREMOS TELEMO ARE ISTHMATS MAKED UPOR ACQUED CURDITIONS
UNITED SHOULD APPROXIMATE THE FROMANE EXPECTIVENESS OF
HIGH MAKES ACLUST AREAS IN THE SHOULD APPROXIMATE THE ADMINISTRATION OF THE SHOULD SHOW THE ADMINISTRATION OF THE SHOULD SHOW THE SHOULD NOTE: RAQUE COVERAGE BY A SINGLE RADAR RADAR COVERAGE OF THE SEAWARD APPROACHES BY TWO RADARS RADAR COVERÂGE OF THE SEAWARD APPROACHES BY THREE OR HORE RADARS

AINFIELD FLOTS (A/F PAGES)

• LOCATION OF AN AINFIELD PRESENTLY SUPPORTING
JET INTERCEPTORS

THEORETICAL BARAN HORIZON FOR AINCART AT
50' ALTITURE, CORPUTED USING ESTIMATED
ELEVATION OF RADAN HORIZON FOR AIRCRAFT AT
2000' ALTITURE, COMPUTED USING ESTIMATED
ELEVATION OF RADAN SITES

AIRCRAFT CORE

FR FISHED

FC FRESCO
TC-D FRESCO-D
FG FAGOT

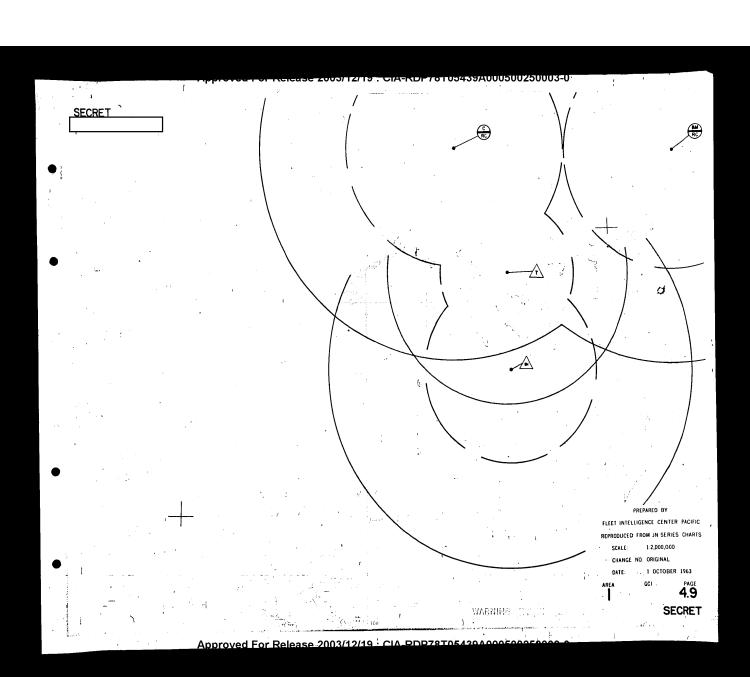
PH

۶L

FISHPOT

FLASHLIGHT

CONFIRMED SA-2 SITE **⊕** COMPLEMED SA-3 SITE CONFIRMED GENERAL SAM SITE • 0 SEARCH LIGHT CONTROL FIRE CAN FIRE WHEEL BT BEAH TRACK SUNVISOR **** LIGHT AAA GUNS (21-7500) HEDIUH AAA GUNS (76-100mm) 0 HEAVY AAA GUNS (101mm and above) NUMBER WITHIN SYMBOLS DENOTES TOTAL GUNS AT SITE



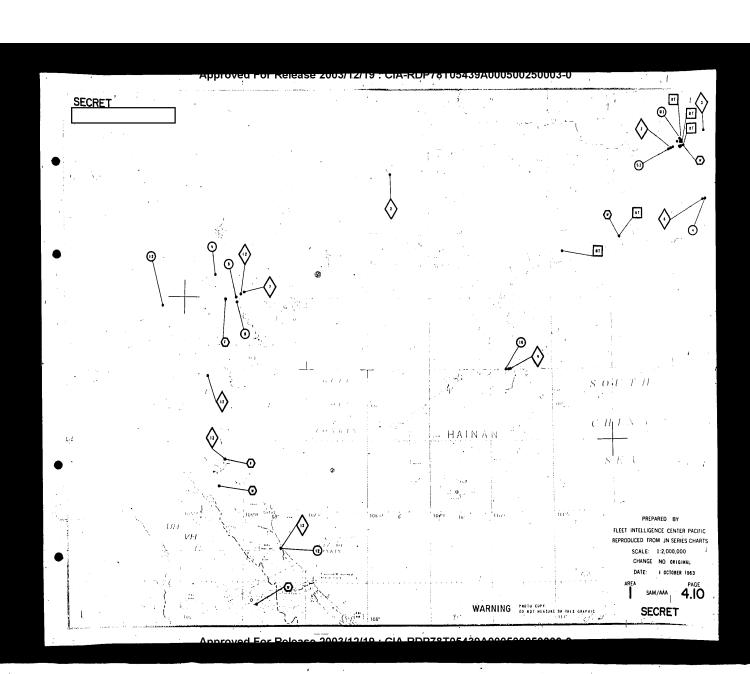
	EARLY WARNING RATE	IR PLOTS (EW PAGES)
ο Δ	EARLY WARRING (EU) RADAR EARLY WARRING / GROUND COSTRON	TED TRAINGEN (OCT) BANAR
) BK BL	"BKIQ" (CHINESE) BAR LOCK	THEORETT AS REQUESTIONS FOR ATREAST AS "AS "ASTROMO- COMPUTED USING ESTIMATED CLEVATION OF RADAR SIDES
вн С	BIG MESH SCR - 270 DA	THEORETICAL RABAR HORIZON FOR ATBURGET AT 7000 ALTITUDE, COMPUTED USING ESTIPATED ELEVATION OF RABAR SILES
D FF FR	DUMBO FLAT FACE FORK REST	RABAR COVERAGE BY A STREET RADAR RABAR COVERAGE OF THE SEAVARD RABAR COVERAGE OF THE SEAVARD
J HI	TACHI 18 HIGH SIEVE	APPROACHES BY THREE OR HURE RADANS
X P	KNIPEREST JAP MK I MOD 3 / JAP TYPE III HI-DUMGO	
SH SO SH	SLANT MESH SO/BEE HOUSE SPOON REST	
T TX	TOKEN TALL KING CRUGS SLOT	
X7	CROSS FURK	<u> </u>

		GROUND CONTROLLED INTERCEPT RADAR HLOTS (GCI PAGES)
	Δ	EW/CCI RADAR
1	θ	EW RAIMS CO-LOCATED WITH HEIGHT FINDER (NE') RAIMS TO FORM GCI UNITS
1	RC	ROCK CAKE
	sc	STURE CARE
	SK	S PONGE CAKE
l	SN	SIDE NET
		SEE EW LEGERD FOR EARLY WARNING RADAR ABBREVIATIONS
١.	_	ESTIMATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-3 AIRCHAFT FLYING ABOVE THE RADAR HORIZON.
		ESTIMATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-4 AIRCRAFT FLYING ABOVE THE RADAR HORIZON.
	NOTE:	THE CUI RECEIS ARE ESTIMATE SUCID UNIN ASSURED CREDITIONS WHICH SHOULD SHOULD APPROXIMENT THE PROMISELE FIRSTUTIVENESS UP-THESE RANGES ALBEST ATRICALT IN A DOSE-OR SEPECT. THESE RANGES HAV WAY CRESTERALLY UTIL MARKET ASPECT. IN ALL CASES, ATRICATE WILL BE DETECTED BY EN RANGE PRIOR TO ELECTION THE CEI CONTROLLED.
	'n	RADAR COVERAGE BY A SINGLE RADAR
		RADAR COVERAGE OF THE SEAWARD APPROACHES BY TWO RADARS
		RADAR COVERAGE OF THE SEAVARD APPROACHES BY THREE OR HORE RADARS

	i i
,	AIRFIELD PLOTS (A/F PAGES)
•	LOCATION OF AN AIRFIELD PRESENTLY SUPPORTING JET INTERCEPTORS
	THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 50' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES
	THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES
	AIRCRAFT CODE
FB	FISHBED
FC	FRESCO
FC-D	FRESCO-D
FG	FAGOT
FH	FISHPOT
n.,	FLASHLIGHT ;
.FH	FARVER
FT	FINTER

	•		
1 🚱	CONFIRMED SA-2 SITE		
*	CONFIRMED SA-3 SITE		
⊕	CONFIRMED GENERAL SAM SITE		
0	GUN LAYING RADAR		
	SEARCH LIGHT CONTROL		
7	FIRE CAN		
PW	PIRE WIEEL		
BT	BEAM TRACK		
sv	SUNVISOR		
w	VICETY		
,	AAA BITES		
\Diamond	LIGHT AAA GUNS (21-75mm)		
0	HEDIUM AAA GUNS (76-100mm)	.4	
Ο.	MEDIUM AAA GUNS (76-100mm) HEAVY AAA GUNS (101mm and above)	. !	

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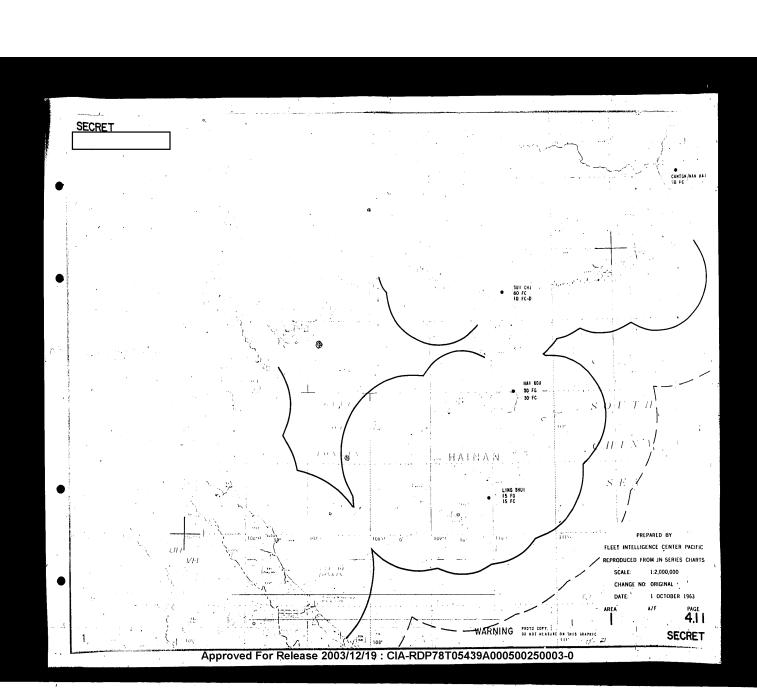


		•
		EARLY WARNING RAIGH PLOTS (CW PAGES)
	0	EARLY WARRING (UM) RADAR
	Δ	EARLY-MARNING I GROUND CONTROLLED INTERCEPT (GCI) BADAR
	1	UNKNOWN THEORETICAL RADAS HORIZON FOR AIRCRAFT AT 50° ALTITUDE,
	BX	"BELG" (CHINESE) COMPUTED USING ESTIPATED ELEVATION OF RABAR SITES
	NL.	BAR LUCK THEORETICAL RADAR HORIZON
	ВН	BIG MESH FOR AIRCRAFT AT 2000' ALTITUM., COMPUTED USING ESTIMATED
	Ċ	SCR - 270 DA ELEVATION OF RADAR SITES
	D	DUMBO : RADAR COVERACE BY A SINGLE RADAR
	¥ŧ	FLAT FACE APPROACHES BY THE SHAWARD APPROACHES BY THE SHAWARD
	PR	FORK REST RADAR COVERAGE OF THE SEAWARD
	н	TACHI 16 APPROACHES BY THREE OR MORE RADARS
	ш	HICK SIEVE
	J	JAP HK 1
	K	KNIFEREST
İ	P	JAP MK I HOD 3 / JAP TYPE-III
. "	2	HI - DUMBO
	SH	SLANT HESH
	so .	SO/BEE HOUSE
	SR ·	S POON REST 1 "
	T	TOKEN
	TK	TALL KING
	x	CRES SLUT
	XF	CROSS FORK

	~	
	AIRFIELD PLOTS (A/F PAGES)	
•	LOCATION OF AN AIRFIELD PRESENTLY SUPPOR	TING
<u>-</u>	THEORETICAL RADAR HORIZON FOR AIRCRAFT A 50' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES	π
`	THEORETICAL RADAR HORIZON FOR AIRCHAFT A 2000' ALTITUDE, COMPUTED USING ESTIMATES ELEVATION OF RADAR SITES	
	AIRCRAFT CODE	
FB	FISHBED	
PC	PRESCO	
FC-D	FRESCO-D	
FG	FAGOT	
FR	FISHPOT	
FL	FLASHLIGHT	
FH	PARIER	
FT	FITTER	

	
	CROUND CONTROLLED INTERCEPT RADAR PLOTS (CCI PAGES)
Δ	EW/GC1 RADAR
θ	EN RADAR CO-LOCATED WITH HEIGHT FINDER (18') RADAR TO FORM GCI UNITS
RC .	ROCK CAKE
5c	STORE CAKE
SK	STORIGE CARE
SN	SIDE WIT
	SEE EW LEGETH FOR EARLY WARNING RADAR ABBREVIATIONS
-	ESTEMATED HAXIMEN EFFECTIVE GCI RANGES AGAINST A-3 AIRCRAFT FLYING ABOVE THE RADAR HORIZON.
	ESTIMATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-4 AIRCRAFT FLYING ABOVE THE RADAR NORIZON.
NOTE:	THE DUE BANDES ARE ESTIMATES DAISID HEM ASSURED CHRONITIONS WITH CHROMAD AFFORMATY THE PROMABLE PRECEIVED AS A STREET ABOVE AND ASSURED AFFORMATY THE PROMABLE PRECEIVED AFFORMATY AND ASSURED AND ASSURED AND ASSURED AND ASSURED AND ASSURED AND ASSURED AND ASSURED AND ASSURED AND ASSURED AND ASSURED ASSURED AND ASSURED ASSURED AND ASSURED ASS
	RADAR COVERAGE BY A SINGLE RADAR
	RADAR COVERAGE OF THE SEAWARD APPROACHES BY TWO RADARS
	RADAR COVERAGE OF THE SEAWARD APPROACHES BY THREE OR MORE RADARS

	SURFACE TO AIR HISSILE (SAM) SITE, CUN LAYING RADAR, AND AAA MLOTS (SAM/AMA PAGES)
€ .	CONFIRMED SA-2 SITE
*	CONFIRMED SA-3 SITE
⊗	CONFIRMED GENERAL SAM SITE
O	GUN LAYING RADAR
	SEARCH LIGHT CONTROL
7	FIRE CAN
FW	FIRE WIEEL
BT	BEAH TRACK
sv	SUMVISOR
u	WILER
	aaa şites
\Diamond	LIGHT AAA GUNS (21-75mm)
0	HEDIUH AAA GUNS (76-100mm)
Δ	HEAVY AAA GUNS (101 mand above)
1.	NUMBER WITHIN SYMBOLS DEMOTES TOTAL GUNS AT SITE



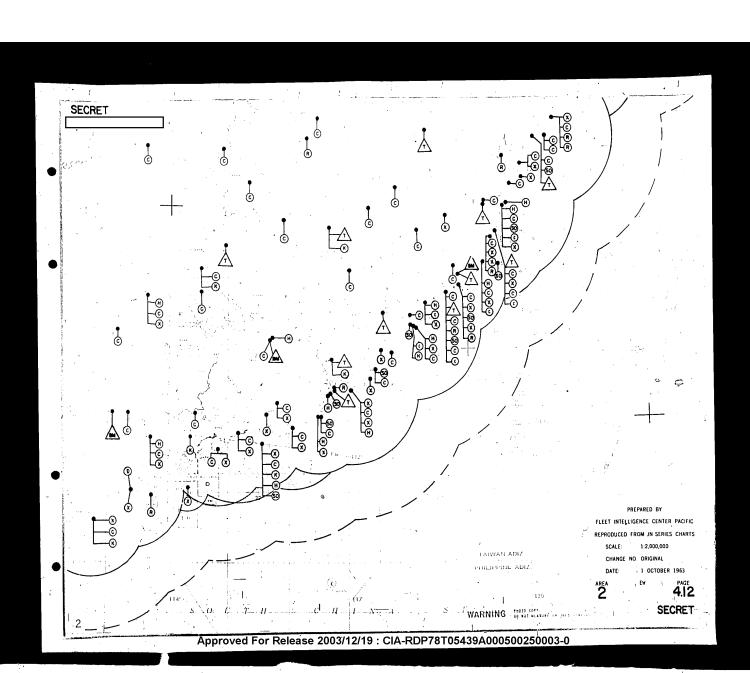
EARLY WARNING RABAR PLOTS (EW PAGES) EARLY WARRING (EW) RADAR 0 $\check{\Delta}$ EARLY WARNING / GROUND CONTROLLED INTERCEPT (GCI) RABAR THEORETICAL RADAR HORIZON
FOR AIRCRAFT AT 50° ALTITUDE
COMPUTED USING ENTIRATED
ELEVATION OF RADAR SITES UNKNOWN "BKDQ" (CRINESE) ВL BAR LOCK --- THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED FLEVATION OF RADAR SITES SCR - 270 BA RADAR COVERAGE BY A SINGLE RADAR римво RADAR COVERAGE OF THE SEAWARD APPROACHES BY THE RADARS ** FLAT FACE PR PORK REST RADAR COVERAGE OF THE SEAMARD APPROACHES BY THREE OR HORE RADARS TACHI 18 HIGH STEVE н JAP MK 1 KNIFEREST JAP MK I MOD 3 / JAP TYPE III SLANT NESH SH SO/BEE HOUSE 50 SR S POON REST Ť, TOKEN TALL KING CROSS FORK

EW/GCI RADAR Δ EW RADAR CO-LOCATED WITH NEIGHT FINDER (NF) RADAR TO FORM CCI UNITS θ ROCK CAKE sc STORE CAKE S PONCE CAKE SEE EW LEGEND FOR EARLY WARNING RADAR ABBREVIATIONS ESTIMATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-3 AIRCRAFT FLYING ABOVE THE RADAR HORIZON. ESTIMATED MAXIMUM EFFECTIVE GCI BANGES AGAINST A-4 AIRCHAFT FLYING ABOVE THE RADAR BURIZON. ARRIGATI FLERE ARRES THE RAING MALLON ASSUMED CONTITIONS THE CCT RAGGES ARE ESTIMATES DUEDO HOM ASSUMED CONTITIONS MITCH SHOULD APPROXIMATE THE PROBBLE EFFECTIVENESS OF ISSUFFICIAL RADIUS AND ASSUMED ASSUMED THE PROBBLE SHOULD ASSUME ASSUMED THE PROBBLE ARREST THAN ASSUMED ASSU RADAR COVERAGE BY A SINGLE RADAR RADAR COVERAGE OF THE SEAWARD APPROACHES BY TWO RADARS RADAR COVERAGE OF THE SEAWARD APPROACHES BY THREE OR HORE RADARS

	AIRFIELD PLOTS (A/F PAGES)
	AIMPIELD PLOIS (A/F FALLS)
•	LOCATION OF AN AIRFIELD PRESENTLY SUPPORTING JET INTERCEPTORS
- .	THEORETICAL RADAR HORIZON FOR ALECRAPT AT 50' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES
	THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES
	AIRCRAFT CODE
FB	PISHBED
FC	FRZSCO
FC-D	FRESCO-D
FG	FAGOT
FIL	FISHPOT
FL	FLASILIGIT
FH	PARKER

	SURFACE TO AIR HISSILE (S RADAR, AND AAA PLOTS (S	AM) SITE GUN LAYING AM/AAA PAGES)
⊛	CONFIRMED CA-2 SITE	
*	COMPIRMED SA- 3 SITE	
€	CONFIRMED CENERAL SAM S	ITE
0	GUN LAYING RADAR	•
	SEARCH LIGHT CONTROL	
F	FIRE CAN	
PH	PIRE WHEEL	
87	BEAH TRACK	
sv	SUNVISOR	
u.	WILLER	
	AAA SI	TES
\Diamond	LIGHT AAA GUNS (21-75m	•)
0	HEDIUH AAA GUNS (76-10	Ossa)
Δ	HEAVY AAA GUNS (101mm	and above)

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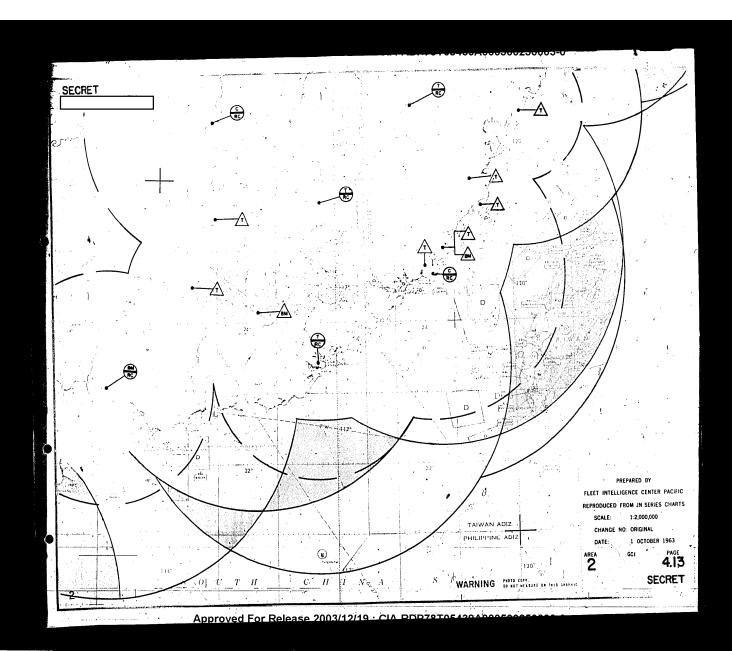


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	AIRFIELD PLOTS (A/F PAGES)
• "	LOCATION OF AN AIRFIELD PRESENTLY SUPPORTING JET INTERCEPTORS
_	THEORETICAL RADAR MORIZON FOR AIRCRAFT AT 50' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES
	THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES
	AIRCRAFT CODE
FB	PISIBED
FC	FRESCO
FC-D	FRESCO-D
FG	FAGOT
ŶН	FISHPOT
FL.	FLASHLIGHT
FH	FARIER

	£	
		CROUND CONTROLLED INTERCEPT RADAR HOTS (GCI PAGES)
١	Δ	EW/GC1 RADAR
l	Θ	EW RADAR CO-LOCATED WITH HEIGHT FINDER (16) RADAR TO FORM GCI UNITS
l	, RC	ROCK CAKE
l	sc	STORE CAKE
Į.	SK	S PORGE CAKE
١	SN	SIDE NOT
		SEE EU LEGEND FOR EARLY WARNING RADAR ABBREVIATIONS
	. —	ESTIMATED HAXIMUM EFFECTIVE GCI RANCES AGAINST A-3 AIRCHAPT FLYING ABOVE THE RADAR HUSIZUN.
1		ESTIMATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-4 AIRCRAFT FLYING ABOVE THE RABAR HORLZON.
	NOTE:	THE OUT BASES ARE ESTIMATES MADED UNEW ASSURED COMBITIONS BUILDS BROKEN APPROXIMANT THE PROBABLE SPECTURENSS OF ISSURED, RADAS MAINST ARCRAFT IS A BOSSEGG ASPECT. THESE RADASS MAY VAMY CONSIDERAMEN VIEW RACKET ASPECT. IN ALL CASES, ARECRAFT VILL BY DETECTED BY EN-MADASS PRIOR TO REACHING THE COT HORSIZED.
ı		RADAR COVERAGE BY A SINGLE RADAR
ı		RADAR COVERAGE OF THE SEAWARD APPROACHES BY TWO RADARS
١		RADAR COVERACE OF THE SEAMARD APPROACHES BY THREE OR MORE RADARS
1		(1)

	SURFACE TO AIR HISSILE (SAM) SITE, GUN LAYING RADAR, AND AAA PLOTS (SAM/AAA PAGES)
€	CONFIRMED SA-2 SITE
*	CONFIRMED SA-3 SITE
69	CONFIRMED GENERAL SAM SITE
Ō	GUN LAYING BADAR
	SEARCH LIGHT CONTROL
y	FIRE CAN
FW	AIMS MINEST
BT	BEAM TRACK
sv	SUNVISOR
w	WRITT
	AAA BITES
\Diamond	LIGHT AAA GUNS (21-75cm)
0	HEDIUM AAA GUNS (76-100mm)
0	HEAVY AAA GUNS (101mm and above)
	NUMBER WITHIN SYMBOLS DENOTES TOTAL GUNS AT SITE



EARLY WARRING (EW) RADAR "BKDQ" (CHINESE) BL. BAR LUCK --- TELEGRETICAL RADAR BORIZON FOR AIRCRAFT AT 2000 ALTITUDE, COMPUTED DISING ESTIMATED DELEVATION OF RADAR SITES BIG MESH FLAT FACE FF FR FORK REST RADAR COVERAGE OF THE SEAMARD APPROACHES BY THREE OR HORE RADARS TACHI 18 KNIFEREST THE SHYT YAL \ ξ DOH I M YAL. SR SPOON REST TOKEN TALL KING CROSS SLOT

> AIRFIELD PLOTS (A/F PAGES) LOCATION OF AN AIRFIELD PRESENTLY SUPPORTING JET INTERCEPTORS THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES ISIBED FRESCO FC FC-D FRESCO-D FH FISHPOT FLASHLIGHT FL. FH FARHER řΤ FITTER

GROUND CONTROLLED INTERCEPT
RADAR PLOTS (GCI PAGLS) Δ EW RADAR CO-LOCATED WITH HEIGHT FINDER (NF) RADAR TO FORM GCI UNITS θ ROCK CAKE sk SPORGE CAKE SIDE NET SN ESTIPATED HAXIMUM EFFECTIVE GCI RANGES AGAINST A-3 AIRCRAFT FLYING ABOVE THE RADAR HORIZON. THE OCT BANCES ARE ESTIMATS MACH DIVEN ASSESSED CHEDITIONS MALES ROULD APPROXIMATE THE FERRALL FEFT. THANKS: OF THE REVENUE AND ASSESSED AS A SECT.
THOSE PRACES MAY WARY ONSTREAMIN WITH TAKET ASSECT.
THE ALL CASES, ATRICATE WILL BE RETLICTED BY BY MADRES PRIOR TO REACHING THE GCT BORIZON. RADAR COVERAGE BY A SINGLE RADAR RADAR COVERAGE OF THE SEAWARD APPROACHES BY TWO RADARS RADAR COVERAGE OF THE SEAMARD APPROACHES BY THREE OR HORE RADARS

SUBPACE TO ALE MISSILE (SAM) SITE CINS LAYING RADIAL AND ALA FLOTS (SAM/AM PACES)

CONFIDENCE SA-2 SITE

CONFIDENCE SA-3 SITE

CONFIDENCE SA-3 SITE

CONFIDENCE COMPANIAN SITE

CONFIDENCE COMPANIAN

SAMACE LIGHT CONTROL

FIRE CONFIDENCE

SAMACE LIGHT CONTROL

FIRE MISSILE

SITE MISSILE

SINVISOR

MILITY

AAA SITES

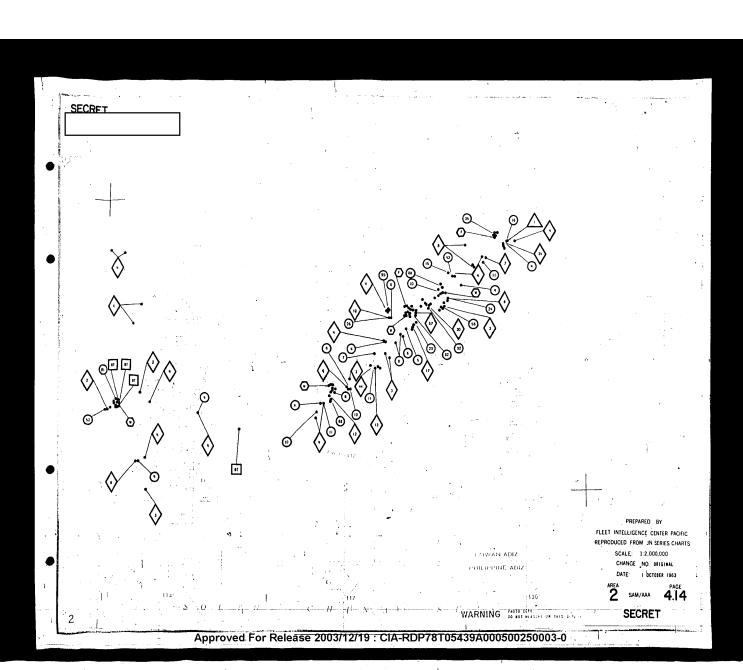
LIGHT AAA CINS (21-75=0)

MEDIUM AAA CINS (76-100=0)

MEDIUM AAA CINS (76-100=0)

MEDIUM AAA CINS (101=0 and above)

MINDER WITHIN SYNGLE DENOTES TOTAL CINS AT SITE



EARLY WARNING RADAR PLOTS (EW PAGES) ΟΔ EARLY WARNING (EW) RADAR EARLY WARNING / CROWN CONTROLLED INTERCEPT (GGI) RADAR THEORETICAL RUBAR HOWIZON FOR ATRICKAPT AT 50 ALTITUDE, COMPUTED DESIRE ESTIMATED FLEWATION OF RAMAR SITES BL BAR LOCK --- THEOMETICAL RABBAR BORIZON
FOR AIRCRAFT AT ZOOD' ALTITUDE,
COMPUTED USING ENTIRATED
FLEVATION OF RABBAR SITES BH BIG MESH SCR - 270 DA RADAR COVERAGE BY A SINGLE RADAR APPROACHES BY TWO RAIMES YR , FORK REST RADAR COVERAGE OF THE SEAVARD APPROACHES BY THREE OR MORE RADARS TACHI 18 HIGH STEVE JAP HK I HOD 3 / JAP TYPE III на-винво SLANT MESH 50 SO/BEE HOUSE TOKEN TALL KING CROSS SLOT CROSS FORK

Δ EW/GCI RADAR θ RC ROCK CAKE sc STORE CAKE SK S PUNCE CAKE ESTIMATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-3 AIRCRAFT FLYING ABOVE THE RADAR HORIZON, ESTIMATED MAXIMUM EFFECTIVE GCI NANGES AGAINST A-4 AIRCRAFT FLYING ABOVE THE RADAR HURIZON. THE GCT MARKES ARE ESTHARTS BASED UPON ASSURED CURDITIONS WHICH SHREED APPROXIMATE THE PROBABLE EFFECTIVENESS OF INSIVIDIDAL ARROSS GAINST REACH THE ADVENTAGE ASSECT. THESE MARKES HAY WAY CHISTOPHANKY WITH TAKEN ASPECT. IN ALL CASES, ARROWN WILL BE DETECTED BY BY MARKES FRICK; TO REACHING THE COT HORIZON. RADAR COVERAGE BY A SINGLE RADAR RADAR COVERAGE OF THE SEAWARD APPROACHES BY THREE OR HORE RADARS

AIRFIELD FLOTS (A/F PAGES)

LOCATION OF AN AIRFIELD PRESENLY SUPPORTING JET INTERCEPTORS

THEORETICAL RAMAN HORIZON FOR AIRGANT AT SO'ALITUME, CONSUMED USING ESTIMATED ELEVATION OF RADAR SITES

THEORETICAL RAMAN HORIZON FOR AIRGANT AT 2000 ALTHUME, COMPUTED USING ESTIMATED ELEVATION OF RAMAN SITES

AIRCRAFT CODE

78 FISHED

7C FRESCO-D

7G FAGOT

7H FISHROT

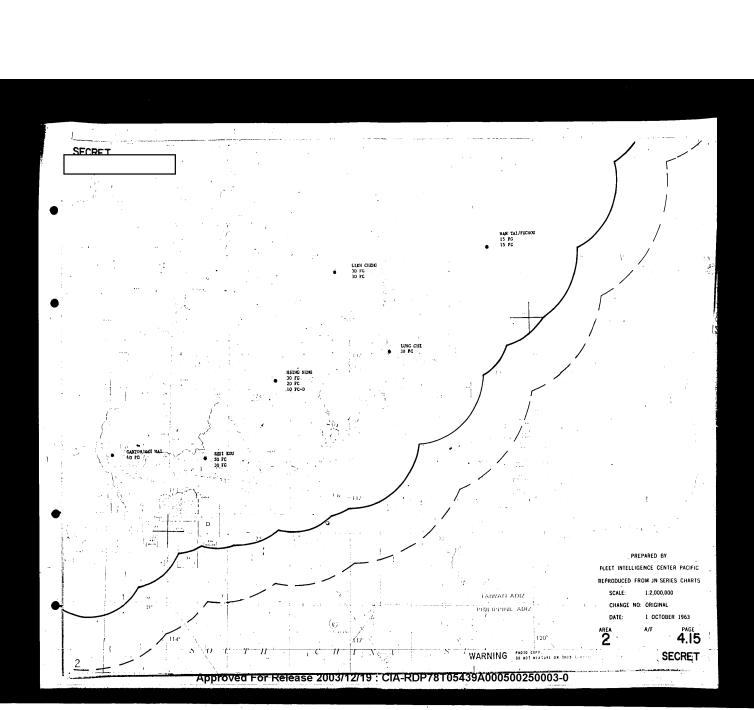
7L FLASHLIGHT

7TAMER

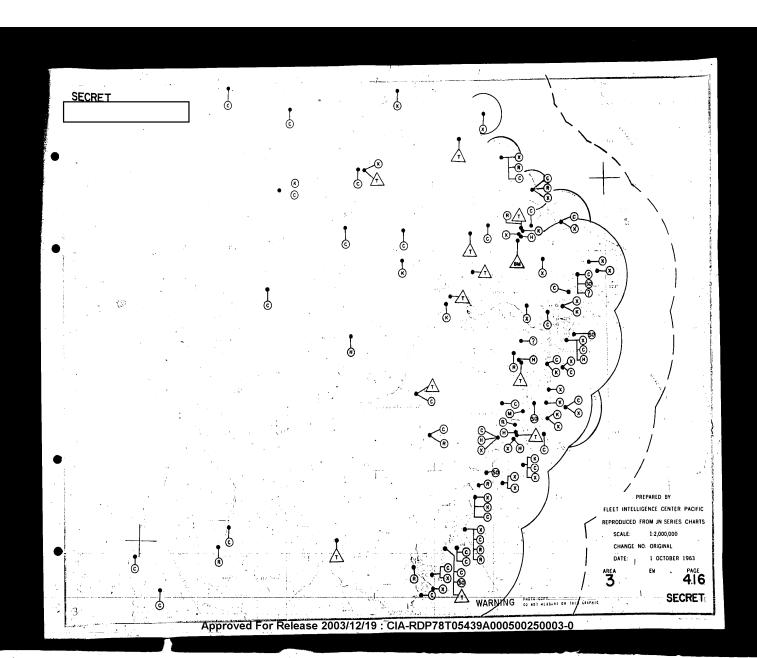
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FITTER.

SURFACE TO AIR MISSILE (SAM) SITE, GUN LAYING RADAR, AND AAA PLOTS (SAM/AAA PAGES) CONFIRMED SA-2 SITE 6 GUN LAYING BADAR 0 SEARCH LIGHT CONTROL FIRE CAN FIRE WHEEL ВТ BEAH TRACK SUNVISOR WHITE AAA SITES \Diamond HEDIUM AAA GUNS (76-100mm) HEAVY AAA GUNS (101mm and above) NUMBER WITHIN SYMBOLS DENOTES TOTAL CURS AT SITE



EARLY WARNING RABAR PLOTS (EW PAGES) GROUND CONTROLLED INTERCEPT RADAR PLOTS (GCI PAGES) EARLY WARNING (EW) RADAR Δ EW/GCI RADAR Δ THEORETICAL RADAR HORIZON
FOR ATROMATY AT 50° ALTITUDE,
COMPUTED USING ESTIPATED
FLEVATION OF RADAR SITES θ "BKDQ" (CHINESE) ROCK CAKE BL. BAR LOCK --- THEORETICAL RADAR BORIZON
FOR AIRCRAFT AT ZORD' ALTITUDE,
COMPUTED USING ESTIMATED
FLEVATION OF RADAR SITES SC STONE CAKE BIG HESH RADAR COVERAGE BY A SINGLE KADAR FF FLAT PACE APPROACHES BY TWO HAIRARS FR FORK REST ESTIMATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-3 AIRCRAFT FLYING ABOVE THE RADAR HORIZON. RADAR COVERAGE OF THE SEAMARD APPROACHES BY THREE OR HORE RADARS TACHI 18 ESTIMATED MAXIMUM REFECTIVE GET RANGES AGAINST A-4 AIRCRAFT FLYING ABOVE THE RADAR HORIZON, HIGH STEVE THE CCI RANGES ARE ESTIMATES BASED UPON ASSUMED CONDITIONS WHICH SHOULD APPROXIMATE THE HUMBHLE EFFECTIVENESS OF RINDIVIDUAL RANGES SACHEST, ARKCAFT IN A ROSSO-OM ASPECT, THESE BANGES WAY WARY CONSIDERABLY WITH TARGET AS JAP HK I KNIFEREST JAP HK I HOD 3 / JAP TYPE III HI-DUNGO RADAR COVERAGE OF THE SEAWARD APPROACHES BY THREE OR MORE RADARS 81 SPOON REST TOKEN TALL KING CROSS SLOT SURFACE TO AIR HISSILE (SAM) SITE,GUN LAYING RADAR,AND AMA PLOTS (SAM/AMA PAGES) CONFIRMED SA-2 SITE AIRFIELD PLOTS (A/F PAGES) CONFIRMED GENERAL SAM SITE LOCATION OF AN AIRFIELD PRESENTLY SUPPORTING JET INTERCEPTORS **®**· GUN LAYING RADAR THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 50° ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES 0 SEARCH LIGHT CONTROL FIRE CAN THEORETICAL RADAR MORIZON FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES PIRE WHEEL SUNVISOR sv AIRCRAFT CODE WHITE FB FISHBED FC FRESCO FC-D FRESCO-D \Diamond HEDITH AAA GUNS (76-100ms) FH FISHPOT Δ HEAVY AAA CUNS (101mm and above) FL FLASIC TOHT NUMBER WITHIN SYMBOLS DENOTES TOTAL GUNS AT SITE FĤ FARMER FT FITTER



EARLY WARNING RADAR PLOTS (EW PAGES) Ă EARLY WARNING / GROUND CONTROLLED INTERCEPT (GCI) BADAR THEORETICAL REDAK HORIZOS FOR ATROMET AT 50° ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES UNICHOWN 1X "BKDO" (CMDAKSE) W. BAR LOCK FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIPATED ELEVATION OF RADAR SITES С SCR - 270 DA RADAR COVERAGE BY A SINGLE BADAR DUNGO 77 FLAT PACE APPROACHES BY THE SHAWARD 7R FORK REST APPROACHES BY THREE OR HORE RADARS HIGH STEVE JAP HK I KNIFEREST JAP HK I HOD 3 / JAP TYPE III SH SLANT NESH 50 SO/BEE HOUSE SR SPOON REST TOKEN CROSS FORK

Δ θ sc SK SN SIDE NET ESTIMATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-3 AIRCRAFT FLYING ABOVE THE RADAR HORIZON. ESTIMATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-4
AIRCRAFT FLYING ABOVE THE RADAR HORIZON, THE CCI BANCES ARE ESTIMATE BUSED UPON ASSURED COMPUTIONS WHICH SHOULD AFFORM THE FROMABLE FREETIMENESS OF INDIVIDUAL RADS ACHISTA REACHT IN A ROSE-ASSURET. THESE MANCES HAY WAY CONSTRUMENTY WITH TAKET ASTUCT. THESE MANCES HAY WAY CONSTRUMENTY WITH TAKET ASTUCT. HE ALL CASES, AREAST WILL BE DETECTED BY BY RADMAS PRIOR TO REACHING THE CCI HORIZON. RADAR COVERAGE BY A SINGLE RADAR \Box RADAR COVERAGE OF THE SEAWARD APPROACHES BY TWO RADARS RADAR COVERAGE OF THE SEAWARD APPROACHES BY THREE OR MORE RADARS

SURFACE TO AIR MISSILE (SAM) SITE CUN LAYING RADAR AND AMA PLOTS (SAM/AMA PAGES)

•

AIRFIELD PLOTS (A/F PAGES) LOCATION OF AN AIRFIELD PRESENTLY SUPPORTING JET INTERCEPTORS THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 50' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES

THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES

AIRCRAFT CODE

FB FISHED FC PRESCO

Ap = 3

FG PAGOT FH FISHPOT-

FL. FLASHLIGHT FK FARMER

FT.

LIGHT AAA GUNS (21-75mm) HEDIUM AAA GUNS (76-100mm)

•

yw

81 sv

0

Δ HEAVY AAA GURS (101mm and above)

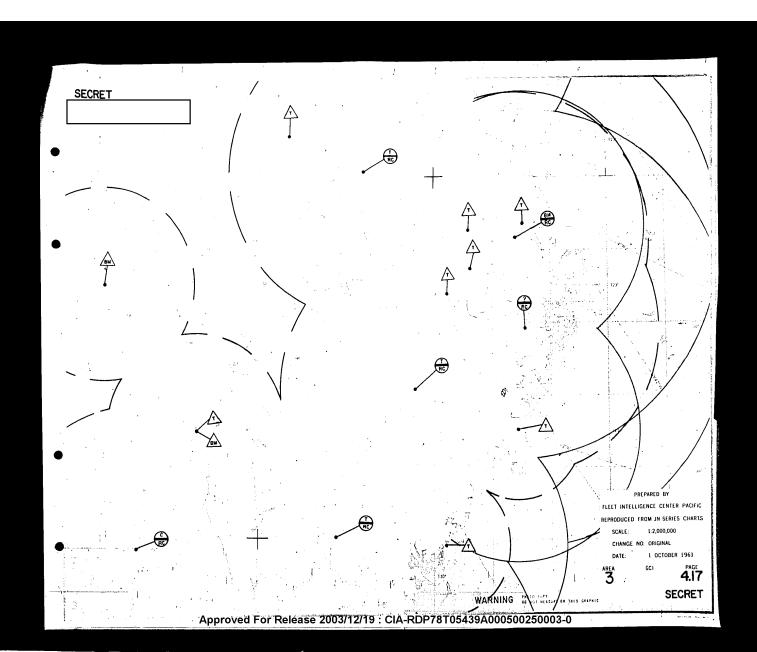
CONFIRMED CENERAL SAM SITE GUN LAYING RADAR

SEARCH LIGHT CONTROL

FIRE WHEEL

SUNVISOR

NUMBER WITHIN SYMBOLS DENOTES TOTAL CUNS AT SITE



TARLY WARNING RADAR PLOTS (EW PAGES)			
ó	EARLY WARNING (EW) RADAK		
Δ.	EARLY WARNING / GROUND CONTROLLED UNKNOWN	DEFORETH AL RABAR HORIZOS FOR AIRCRAFT AT 50° ALTITUDE,	
ar ax	BAR FOCK ,, SKIDÖ,, (CRIDIZEE)	COMPUTED USING ESTIMATED ELEVATION OF RABAR SITES THEORETICAL RADAR HORIZON	
3×	BIG NESH SCR - 270 DA	FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED. ELEVATION OF RADAR SITES	
D	DUNGO	RADAR COVERAGE BY A SINGLE RADAR	
¥F.	FORK REST	AFFROACHES BY THE RADARS RADAR COVERAGE OF THE SEAUARD APPROACHES BY THREE OR HORE RADARS	
KI	TACHI 18 HIGH BIEVE	AFFROACIOS SI HOLD, OF FOIL DOOR	
) K	JAP HK I KNIFEREST		
1	JAP MK I MOD 3 / JAP TYPE III		
5M 80	SO/BEE HOUSE		
	S POON REST TOKEN		
TX X	TALL KING, CROSS SLOT		
XP .	CROSS FORK		

	GROUND CONTROLLED INTERCEPT RADAR PLOTS (GCI PAGES)
Δ	EW/GCL RADAR
Ө	EW RADAR CO-LOCATED WITH NEIGHT FINDER (HE) RADAR TO FORM GCI UNITS
RC	ROCK CAKE
sc	STORE CAKE
SK	S PORGE CAKE
SN	SIDE NET
	SEE EN LEGEED FOR EARLY WARNING RADAR ABBREVIATIONS
	ESTIMATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-3 AIRCRAFT FLYING ABOVE THE RADAR HORIZON,
	ESTIMATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-4 AIRCRAFT FLYING ABOVE THE RADAR HORIZON,
NOTE:	THE GCI BANGES ARE ESTHAMES BASED UPON ASSUMED CONDITIONS WHICH SHOULD APPROXIMATE THE PROBABLE FFFECTIVENESS OF INDIVIDUAL ANDRAS AGAINST ARREART 18 A ROBERT ASPECT. THESE BANGES HAY WARY CONSIDERARLY WITH TAKEST ASPECT. IN ALL CASES, AIRCRAFT WILL BE DETECTED BY EW RADASS PRIOF DEACHING THE CCT HOWLEN.
	RADAR COVERAGE BY A SINGLE RADAR
	RADAR COVERAGE OF THE SEAWARD APPROACHES BY TWO RADARS
	RADAR COVERAGE OF THE SEAWARD APPROACHES BY THREE OR MORE RADARS

 		_
	AIRFIELD PLOTS (A/F PAGES)	
•	LOCATION OF AN AIRFIELD PRESENTLY SUPPORTING JET INTERCEPTORS	
<u> </u>	THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 50' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES	1
	THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES	. :
	AIRCRAFT CODE	
PB .	FISHBED	Ġ
FC	YRESCO	
FC-D	FRESCO-D	
FG	FAGOT	
Pit	FISHPOT	
FL ,	FLASHLIGHT	٠.
FH	FARIER	
FT	FITTER	

	SURFACE TO AIR MISSILE (SAM) SITE, GUN LAYING RADAR, AND AAA PLOTS (SAM/AAA PAGES)
⊕	CONFIRMED SA-2 SITE
*	CONFIRMED SA-3 SITE
⊗	CONFIRMED CENERAL SAM SITE
0	GUN LAYING RADAR
	SEARCH LIGHT CONTROL
7	FIRE CAN
TW	FIRE WHEEL
BT	BEAH TRACK
sv	SUNVISOR
¥	VICEFF -
	AAA SITES
\Diamond	LIGHT AAA GUNS (21-75mm)
Ο _	MEDIUM AAA GUNS (76-100mm)
Δ	HEAVY AAA CUMS (101mm and above)
	NUMBER WITHIN SYMBOLS DENOTES TOTAL GUNS AT SITE

SECRET PREPARED BY FLEET INTELLIGENCE CENTER PACIFIC REPRODUCED FROM JN SERIES CHARTS SCALE: 1:2,000,000 CHANGE NO. ORIGINAL
DATE: I OCTOBER 1963
AREA PAGE
3 SAM/AAA 4.18 Approved For Release 2003/12/19 SECRET

		,
	EARLY WARNING RAIL	AR PLOTS (EM PAGES)
o .	EARLY WARNING (EW) RADAR	
Δ	EARLY WARRING / GROUND CONTROL	·
. 1	UNKNOWN	THEORETICAL REDAK HORIZOG FOR AIRCRAFT AT 50' ALTITUDE,
BK	"BKDQ". (CHINESE)	COMPUTED USING ESTEMATED FILEVATION OF RABAR SITES
BL ·	BAR LOCK	THEORETICAL RADAR HORIZON
ВН	BIG HESH	FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED
С	SCR - 270 DA	ELEVATION OF RABAR SITES
D	DUNGO	RADAR COVERAGE BY A SINGLE RADAR
**	FLAT FACE	APPROACHES BY THE REANARD
71	FORK RUIST	RADAR COVERAGE OF THE SEAVARD
н	TACHI 18	APPROACHES BY THRUE OR HORE RADARS
HI	HIGH SIEVE	
J	JAP HK 1	* 100
K	KNIFEREST	* *
P	JAP MK I HOD 3:/ JAP TYPE III	
R	HI-DUHBO	
SH	SLANT MESH	
50	SO/BEE HOUSE	
Sk	S POON REST	•
T	TOKEN	
TK .	TALL KING	
x	CROSS SLOT	
XF	CROSS FORK	
		• *

THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 50' ALTITUME, CONFUTED USING ISTITATED ELEVATION OF RADAR SITES

THEORETICAL TRADA HORIZON FOR AIRCRAFT AT 2000' ALTITUME CONFUTED USING ESTIMATED ELEVATION OF RADAR SITES

FC

FG

PH

FH · FARMER
FT FITTER

FC-D

FRESCO

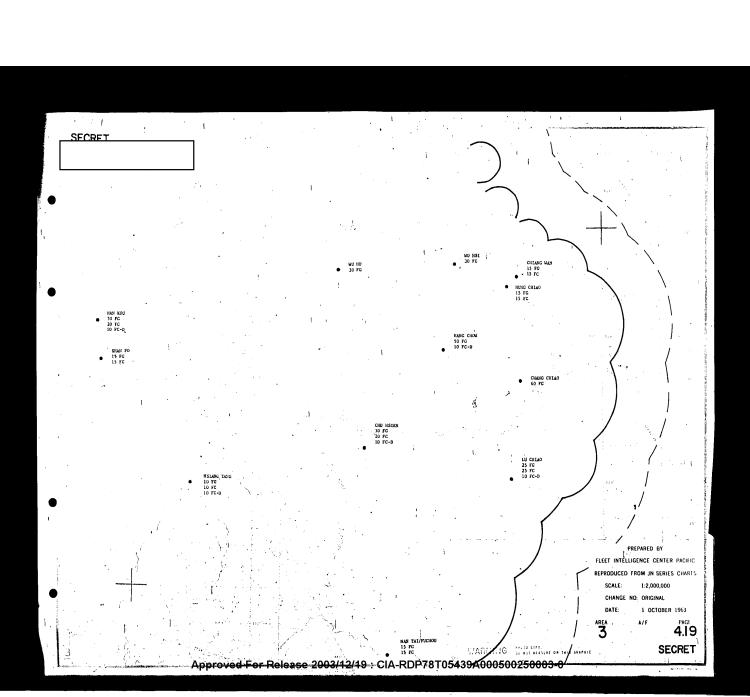
FRESCO-D

FAGOT

FISHPOT FLASHLIGHT

	GROUND CONTROLLED INTERCEPT RADAR PLOTS (GCI PAGES)
Δ	EW/CCI RABAR
Θ	EW RADAR CO-LOCATED WITH HEIGHT FINDER (NF) RADAR TO FORM GC: UNITS
RC.	ROCK CARE
sc	STORIC CAKE
SK	SPONGE CAKE
SN	SIDE WET
	SEE EM LEGERD FOR EARLY MARNING RADAR ABBREVIATIONS
_	ESTIBATED MAXIMUM EFFECTIVE CCI RANCES AGAINST A-3 AIRCRAFT FLYING ABOVE THE RABAR HONIZON.
	ESTHATED MAXIMUM EFFECTIVE GCI MARGES AGAINST A-4 AIRCRAFT FLYING ABOVE THE RABAR BORIZON.
NOTE:	THE GGI MANGES ARE ESTHAITS BASED UPON ASSURED CORDITIONS MILES SHOULD APPROXIMATE THE PROMABLE FFFECTIVENESS OF EMPIRICAGE MANAGES AGAINST ARREAT HE A ROSEON ASPECT. THESE RABBES MAY WANY CONSIDERABLY WITH TARKET ASPECT, HE ALL CASES, ARREAST VILL BE BETTETED BY MY RADARS PRIOR TO RACHING THE COL BRAIGNAS.
	RADAR COVERAGE BY A SINGLE RADAR
	RADAR COVERAGE OF THE SEAWARD APPROACHES BY TWO RADARS
	RADAR COVERAGE OF THE SEAMARD APPROACHES BY THREE OR HORE RADARS

	SURFACE TO ALB MISSILE (SAM) SITE GUN LAYING RADAR AND ANA MLOTE (SAM/ANA PAGES)
- ●	CONFIRMED SA-2 SITE
*	CONFIRMED SA-3 SITE
- 69	CONFIRMED CENERAL SAM SITE
O	GUN LAYING RADAR
	SEARCH LIGHT CONTROL
y	TIRE CAN
. PW	VIRE WIELL
ВТ	BEAM TRACK
sv	SUNVISOR
u	VI I I I I I I I I I I I I I I I I I I
,	AAA SITES
	LIGHT AAA GUNS (21-75cm)
Ò	HEDIUM AAA GUNS (76-100mm)
ک ا	SZAVI AAA GUNS (101mm and above)
	NUMBER WITHIN SYMBOLS DENOTES TOTAL CURS AT SITE
1	



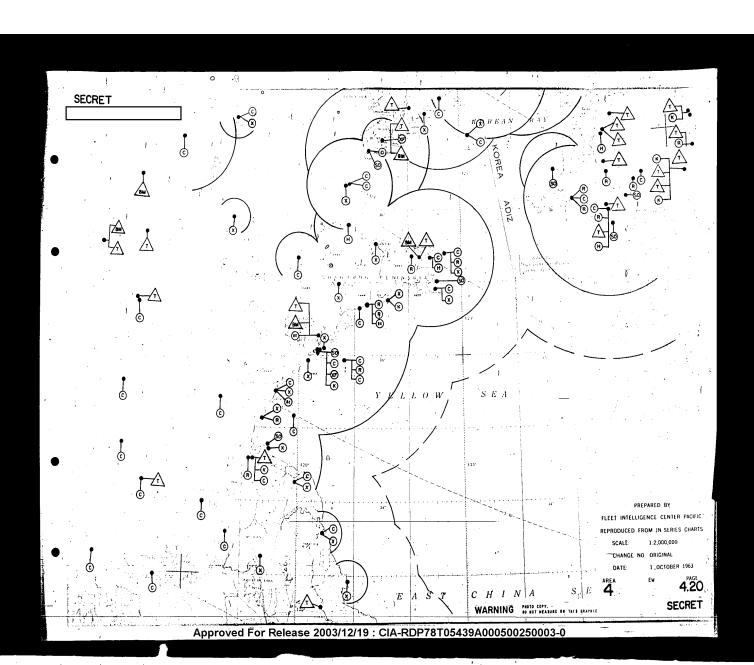
EARLY WARNING (EW) RADAR Δ EARLY MARNING / GROUND CONTROLLED INTERCEPT (GC1) RADAR THEORETICAL RADAR MORIZON
FOR AIRCRAFT AT 50° ALTITUDE,
COMPUTED USING ESTIMATED
ILLEVATION OF RABAR SITES 7 BK "BKDQ" (CHINESE) BL. BAR LOCK THEORETICAL RABAR HORIZON FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RABAR SITES BIG HESI SCR - 270 DA RADAR COVERAGE BY A SINGLE RADAR DUMBO RADAR COVERAGE OF THE SEAVARD APPROACHES BY THO RADARS FLAT FACE 77 FR FORK REST RADAR COVERAGE OF THE SEAWARD APPROACHES BY THREE OR HORE RADARS TACHI 18 HIGH STEVE JAP HK I KNIFEREST JAP HK I HOD 3 / JAP TYPE III HI-DUNGO 60 SO/BEE HOUSE SR SPOON REST TOKEH-TALL KING XF

GROUND CONTROLLED INTERCEPT RADAR PLOTS (GCI PAGES) Δ EW/GCL RADAR EW RADAR CO-LOCATED WITH HEIGHT FINDER (HF) RADAR TO FORM GCI. UNITS Θ. . RC ROCK CAKE STONE CAKE STONGE CAKE ESTIMATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-3 AIRCRAFT FLYING ABOVE THE RADAR HORIZON. ESTIMATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-4 AIRCRAFT FLYING ABOVE THE RADAR HORIZON. THE GCI BANGES ARE ESTIMATES BALED UPON ASSURED CONDITIONS WHICH SHOULD APPROXIMATE THE PROBABLE INTERCTIONESS OF BOUTURES ROUND ASSURED THE PROBABLE STREET, THE PROBABLE STREET, AS USED ASSERT, THE ALL CASES, ASKERAT WILL BE DETICTED BY EV MADRES FROM TO REACHING THE GCI INSTERN. RADAR COVERAGE BY A SINGLE RADAR RADAR COVERAGE OF THE SEAWARD APPROACHES BY TWO RADARS RADAR COVERAGE OF THE SEAWARD APPROACHES BY THREE OR HORE RADARS

3

AIRFIELD PLOTS (A/F PAGES) LOCATION OF AN AIRFIELD PRESENTLY SUPPORTING JET INTERCEPTORS THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 50° ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES FB FISHMED FC FRESCO FC-D FRESCO-D FAGOT PISHPOT FH FL FLASIE IGHT FH PARIER FT FITTER

SURPACE TO AIR HISSILE (SAM) SITE GUN LAYING RADAR AND AAA PLOTS (SAM/AAA PAGES) **⊕** 0 GUN LAYING RADAR O SEARCH LIGHT CONTROL FIRE CAN PIRE WHEEL BEAM TRACK SUNVISOR sv WHITE AAA SITES 0 0 Δ HEAVY AMA GUNS (101mm and above) NUMBER WITHIN SYMBOLS DENOTES TOTAL CUNS AT SITE

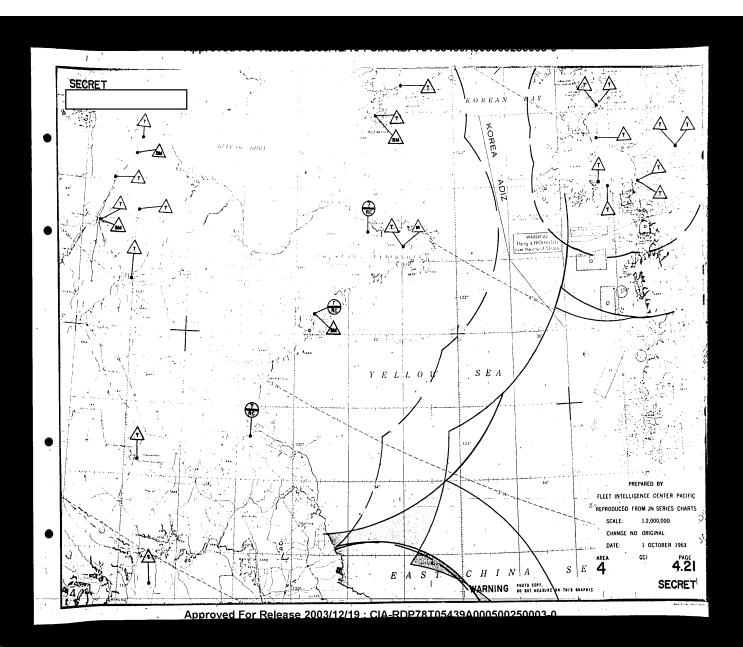


EARLY WARNING RADAR PLOTS (EW PACES) EARLY WARRIENC (EW) RADAR 0 EARLY MARNING / GROUND CONTROLLED INTERCEPT (GCI) RADAR Δ THEORETICAL KADAR HORIZOS
FOR ATRORAFT AT 50' ALTITUDE,
COMPUTED USING ESTIPATED
ELEVATION OF RADAR SITES INCHOUNT "BKIN" (CHINESE) PT. --- THEORETICAL RABAR HORIZON FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF HADAR SITES ън BIG HESK SCR - 270 DA RADAR COVERAGE BY A SINGLE RADAR Þ DUMBO APPROACHES BY TWO MADARS FLAT FACE 72 YORK REST RADAR COVERAGE OF THE SEAUARD APPROACHES BY THREE OR HURE RADARS TACHI 18 н HIGH SIEVE . ні J-JAP HK 1 KNIPEREST P HI-DUMBO R SH SLANT HESH 60 SO/REE HOUSE SPOON REST TOKEN ' TK TALL KING CROSS SLOT XF CROSS FORK

> AIRFIELD PLOTS (A/F PAGES) LOCATION OF AN AIRFIELD PRESENTLY SUPPORTING JET INTERCEPTORS THEORETICAL RADAR MORIZON FOR AIRCRAFT AT 50' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES AIRCRAFT CODE YВ PISHBED FC PRESCO FC-D FRESCO-D FAGOT FG FH ' FISHPOT n. FLASHLICHT FH FARHER FT FITTER

GROUND CONTROLLED INTERCEPT RADAR PLOTS (GCI PAGES) · 1 Δ EW/GCI RABAR θ STURE CAKE S PONCE CAKE SK SN SIDE NET ESTIMATED MAXIMUM EFFECTIVE GGI RANGES AGAINST A-3 AIRCRAFT FLYING ABOVE THE RADAR HORIZON ESTIMATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-4 AIRCRAFT FLYING ABOVE THE RADAR NORIZON. THE CCI BANCES ARE ESTIMATES MASED UPON ASSURED CONDITIONS
WHICH SUGGED APPROXIMATE THE PROBABLE EFFECTIVENESS OF
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THESE BANCES HAV WARY CORSIDERABLY WITH TARGET ASPECT,
IN ALL CASSES, AREWAYF WILL BE DETECTED BY BU MARMAS FRIOR
TO REACHING THE CCI HORIZON. RADAR COVERAGE BY A SINGLE RADAR RADAR COVERAGE OF THE SEAWARD APPROACHES BY TWO RADARS RADAR COVERAGE OF THE SEAWARD APPROACHES BY THREE OR HORE RADARS

SURFACE TO AIR MISSILE (SAM) SITE CUN LAYING RADAR AND AAA PLOTS (SAM/AAA PAGES) **Æ** CONFIRMED BA-3 SITE * CONFIRMED GENERAL SAM SITE 0 GUN LAYING RADAR SEARCH LIGHT CONTROL P FIRE WHEEL 74 BEAH TRACK - BT sv SUNVISOR WHITE 0 LIGHT AAA GUNS (21-75mm) HEDIUH AAA GUNS (76-100mm) 0 Δ HEAVY AAA GUNS (101mm and above) MUMBER WITHIN SYMBOLS DENOTES TOTAL GUNS AT SITE



EARLY WARNING RADAR PLOTS (EW PAGES) Ö EARLY MARNING / GROUND CONTROLLED INTERCEPT (GCI) RADAR Δ Δ UNKNOWN? θ "BKDQ" (CHINESE) BL. --- THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES SC STORE CAKE BIG PESH SK SPUNCE CAKE SCR - 270 DA -SIDE NET RADAR COVERAGE BY A SINGLE WADAR Þ DUMBO RADAR COVERAGE OF THE SEAVARD APPROACHES BY TWO RADARS O FLAT FACE FR ESTIMATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-4 AIRCRAFT FLYING ABOVE THE RADAR HORIZON. TACHI 18 ' THE CCI BANCES ARE ESTIMATS MASED UPON ASSURED CONDITIONS MINICIPAL SHOULD A PRINCIPATE THE PROBABLE EFFECTIVESS OF HONLY INCOMES ACTIONS AND ASSECT.

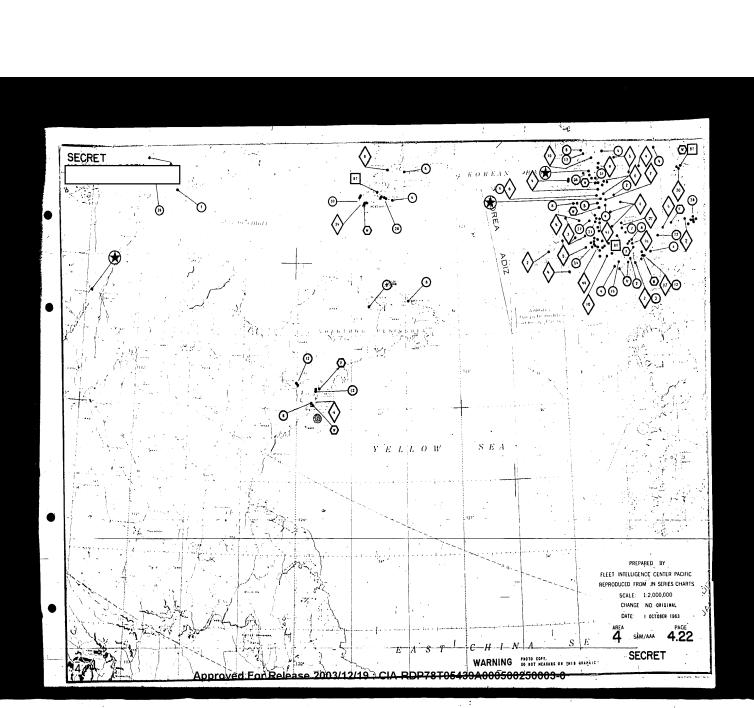
IN ALL CASS, ARE ARE ANY THAT CHRISTMAN WITH TARCET AS FECT.

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IN ALL CASS, ARE ARE ANY THAT CHRISTMAN WITH TARCET AS FECT. н HIGH STEVE JAP HK 1 KNIVEREST JAP HK 1 HOD 3 / JAP TYPE III RADAR COVERAGE BY A SINGLE RADAR . H1-DUMBO RADAR COVERAGE OF THE SEAWARD APPROACHES BY TWO RADARS SLANT NESI \Box RADAR COVERAGE OF THE SEAMARD APPROACHES BY THREE OR HORE RADARS 50 SO/REE HOUSE % **TK** CROSS SLOT CROSS FORK SURFACE TO AIR MISSILE (SAM) SITE,GUN LAYING BADAR,AND AAA PLOTS (SAM/AAA PAGES) **⊛** CONFIRMED SA-3 SITE AIRFIELD PLOTS (A/F PAGES) CONFIRMED GENERAL SAN SITE LOCATION OF AN AIRFIELD PRESENTLY SUPPORTING JET INTERCEPTORS . GUN LAYING RADAR 0 THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 50' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES FIRE CAN , THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES FIRE WHEEL ru. BEAH TRACK BŤ SUNVISOR FB FISHBED FRESCO LIGHT AAA GUNS (21-75mm)' FC-D HEDIUM AAA GUNS (76-100mm) FACOT FG Δ HEAVY AAA CUNS (101mm and above) FIL FISHPOT MUNGER WITHIN SYNGOLS DENOTES TOTAL GUES AT SITE FLASHLIGHT PL. -FARHER Approved For Release 2003/12/19 : CIA-RDP78T05439A000500250003-0



Δ THEORETICAL RADAR HORIZON
FOR ATRORAPT AT 50' ALTITUDE,
COMPUTED USING ESTIMATED
ELEVATION OF RADAR SITES UNKNOWN ВX "BKDQ" (CHINESE) BAR LOCK FOR AIRCRAFT AT 2000 ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF MADAR SITES *81G 1925H RADAR COVERAGE BY A SINGLE RADAR ринво RADAR COVERAGE OF THE SEAWARD APPROACHES BY TWO RADARS FF FLAT PACE FORK REST RADAR COVERAGE OF THE SEAVARD APPROACHES BY THREE OR MORE RADARS HIGH SIEVE и JAP HK I KNIVEREST JAP MK I HOD 3 / JAP TYPE III SO/BEE HOUSE 50 SR S POON REST TOKEN TALL KING

AIRPIELD ROTS (A/F PAGES)

LOCATION OF AN AIRPIELD PRESENTLY SUPPORTING
JET INTERCEPTIONS

TREORETICAL RAMB HORIZON FOR AIRCRAFT AT
50' ALTITUME, COMPUTED USING ESTHATED
ELEVATION OF RAMAR SITES

THEORETICAL RAMB HORIZON FOR AIRCRAFT AT
2000' ALTITUME, COMPUTED USING ESTHATED
HEVATION OF RAMAR SITES

AIRCRAFT CODE

FE FISHERD

FC FRESCO

TC-D FRESCO-D

FG FACOT

FILLIPOT

FLANELIGHT

FN FAMER

FT FAMER

FT FITTER

GROUND CONTROLLED INTERCEPT RADAR PLOTS (GCI PAGES) EW/GCI RADAR EW RADAR CO-LOCATED WITH NEIGHT FINDER (NP) RADAR TO FORM GCI UNITS θ Sc S PONGE CAKE SK SN SIDE RET SEE EN LEGEND FOR EARLY WARNING RADAR ABBREVIATIONS ESTIMATED HAXIMUM EFFECTIVE GGI RANGES AGAINST A-3 AIRCRAFT FLYING ABOVE THE RADAR HORIZON, ESTIMATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-4 AIRCRAFT FLYING ABOVE THE RADAR BORIZON. THE GCT RANGES ARE ESTIMATES BASED UPON ASSUMED CONDITIONS WHICH SHOULD APPROXIMATE THE PROMABLE PETECTIVENESS OF INDIVIDUAL RANGES AGAINST ARROWS ASPECT. THESE RANGES MAY WARY CONSIDERABLY WITH TARGET ASPECT. THE ALL CASES, ATREMENT WILL BE DETECTED BY EVE RANGES PRIOR TO REACHING THE GCT HORIZON. RADAR COVERAGE BY A SINGLE RADAR RADAR COVERAGE OF THE SEAWARD APPROACHES BY TWO RADARS radar coverage of the seaward approaches by three or ${f A}$ ore radars

CONTINUED SA-2 SITE

CONTINUED SA-3 SITE

CONTINUED CREAMA SAN SITE

COM LAYEN SANDAR

SEARCH LIGHT CONTROL

F PIRE MEEL

BI BEAN TRACK
SV SUNVISOR

WHITF

AAA SITES

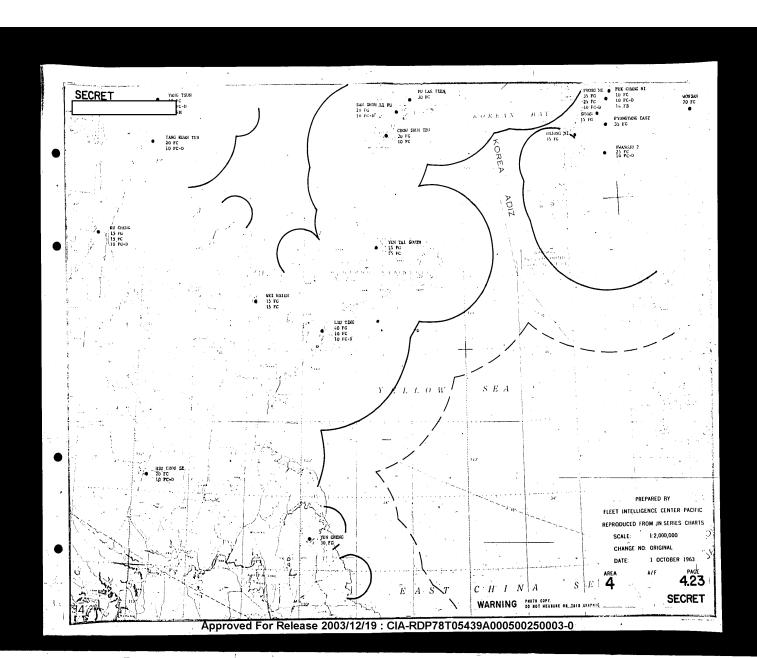
LIGHT AAA CURS (21-75mm)

MEDIUM AAA GURS (16-100mm)

ELYT AAA CURS (10-100mm)

MURBER WITHIN SYNGLES DEMOTES TOTAL CURS AT SITE

SURFACE TO AIR MISSILE (SAM) SITE,GUN LAYING RADAR,AND AAA PLOTS (SAM/AAA PAGES)



Approved For Release 2003/12/19 : CIA-RDP78105439A000500250003-0 1 EARLY WARNING RADAR PLOTS (EW PAGES) ΟΔ EARLY WARNING (EW) KADAR EARLY WARNING / GROUND CONTROLLED INTERCEPT (GC1) RADAR THEORETICAL RADAS HORIZOS FOR ATRICKAFT AT 50° ALTITUDE, COMPUTED USING ESTIMATED FLEVATION OF RADAR SITES "BKDQ" (CHINESE) BK BL. BAR LOCK --- THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES BIG MESH SCR - 270 DA RADAR COVERAGE BY A SINGLE RADAR APPROACHES BY THE REMARD ** FLAT FACE FORK REST FR RADAR COVERAGE OF THE SEAWARD APPROACHES BY THREE OR HORE RADARS TACHI 18 HIGH SIEVE KNIFEREST JAP MX I HOD 3 / JAP TYPE III HI-DUHBO ' SH SLANT MESI so SR SPOON REST T TOKEN TK TALL KING x CROSS SLOT

CROSS FURE		
:	AIRFIELD FLOTS (A/F PAGES)	
. •	LOCATION OF AN AIRFIELD PRESENTLY SUPPORTING JET INTERCEPTORS	
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:	THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES	
	AIRCRAFT CODE	
FB	FISHBED	
FC	FRESCO	
FC-D	FRESCO-D	
¥G	FAGOT	
PH	FISHPOT	
, FL	FLASIGIGHT	
FH	PARIER .	
FT	FINTER	

	GROUND CONTROLLED INTERCEPT RADAR PLOTS (GCI PAGES)
Δ	EW/GC1 RADAR
Θ	EW RADAR CO-LOCATED WITH HEIGHT FINDER (IP) RADAR TO FORM GCI UNITS
RC	ROCK CANE
sc	STORE CAKE
SK	SPORCE CAKE
SN	SADE NET
	SEE EW LEGEND FOR EARLY WARNING RADAR ABBREVIATIONS
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	RADAR COVERAGE BY A SINGLE RADAR
	RADAR COVERAGE OF THE SEAWARD APPROACHES BY TWO RADARS
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		SURFACE TO AIR RESSILE (SAH) SITE, GUN LAYING RADAR AND AND PLOTS (SAM/AAN PROEE)
	⊛	CONFIRMED SA-2 SITE
1	`★	CONFIRMED SA-3 SITE
1	. ⊕	CONFIRMED GENERAL SAM SITE
١	0	GUN LAYING RADAR
١		SEARCH LIGHT CONTROL
-	Y	FIRE CAN
١	yu	FIRE WIELL
١	BT	BEAN TRACK
1	sv	SUNVISOR
-	u	WHITE .
		AAA SITES
	\	LIGHT AAA GUNS (21-75mm)
	0 4	MEDIUM AAA GUNS (76-100mm)
	Δ	HEAVY AAA GUNS (101ses and above)
		NUMBER WITHIN SYMBOLS DENOTES TOTAL CUNS AT SITE
1		

SECRET PREPARED BY FLEET INTELLIGENCE CENTER PAGIFIC REPRODUCED FROM JN SERIES CHARTS SCALE: 1:2,000,000 CHANGE NO. ORIGINAL 1 OCTOBER 1963. 4.24 Approved For Release 2003/12/19 : CIA-RDP78T05439A000500250003-0 SECRET

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EARLY WARNING RADAR MLOTS (EW PAGES)							
0	EARLY WARNING (EW) RADAR	•					
Δ	EARLY WARNING / GROUND CONTRO	ALEB INTERCEPT (GCI) RADAR					
7	UNKNOWN	THEORETICAL BADAS HORIZOS					
BK	"BKDQ" (CHINESE)	FOR AIRCRAFT AT 50' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES					
BL.	BAR LOCK	THEORETICAL RADAR HORIZON					
BH	BIG HESH	FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED					
С	SCR - 270 DA	ELEVATION OF RADAR SITES					
a	DUHBO	RADAR COVERAGE BY A SINCLE RADAR					
FF	FLAT FACE	APPROACHES BY TWO RADARS					
YR "	FORK REST	MADAR COVERAGE OF THE SEAVARD					
н	TACHI 18	APPROACHES BY THREE OR HORE RADARS					
ні	HIGH SIEVE						
J	JAP HK I						
x	KNIFEREST	•					
P	JAP MK I HOD 3 / JAP TYPE III	t ,					
- R	HI-DURBO	• .					
SH	SLANT NESH	and the second second					
50	SO/BEE HOUSE						
SR	SPOON REST						
7	TOKEN	•					
, nx	TALL KING						
×	CROSS SLOT						
·· x7	CROSS FORK						
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	AIRFIELD FLOTS (A/F PAGES)		
•	LOCATION OF AN AIRFIELD PRESENTLY SUPPORTING JET INTERCEPTORS		
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FC	FRESCO		
FC-D	FRESCO-D		
FG	PAGOT		
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PL.	FLASIC IGHT		
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FT	FITTER		
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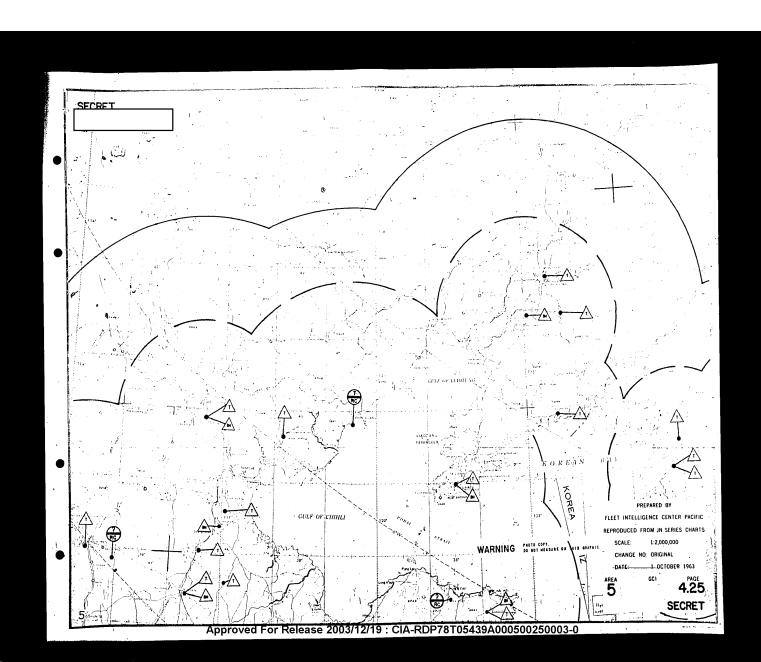
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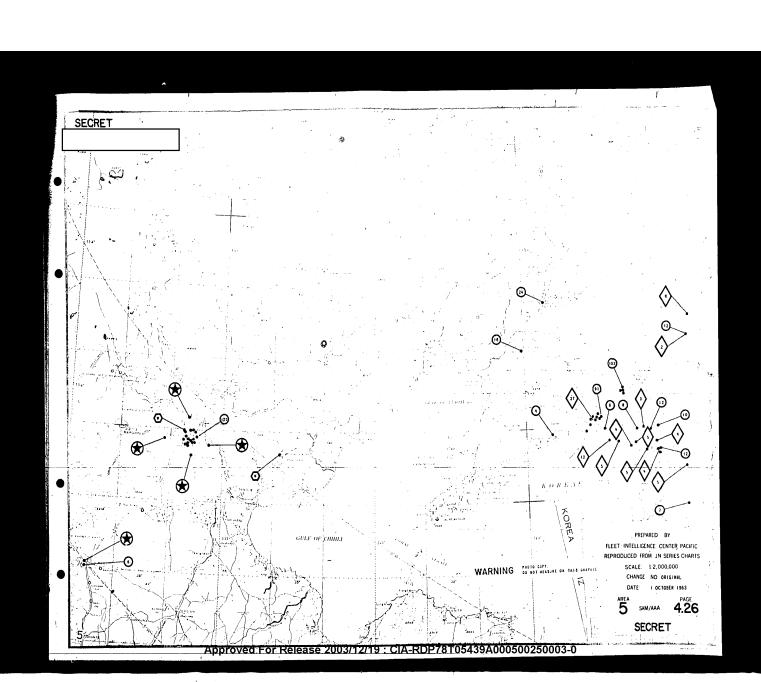
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	v.
-	SURPACE TO AIR MISSILE (SAN) SITE,GUN LAYING RADAR.AND AAA PLOTS (SAN/AAA PAGES)
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*	CONFIRMED SA-3 SITE
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	NUMBER WITHIN SYMBOLS DENOTES TOTAL CURS AT SITE



Approved For Release 2003/12/19 : CIA-RDP78T05439A000500250003-0 EARLY WARRING RADAR PLOTS (EV PAGES) EARLY WARNING (EW) RADAR EARLY WARNING / GROUND CONTROLLED INTERCEPT (GCI) RADAR Δ EW/GCI RADAR . Δ EW RADAR CO-LOCATED WITH HEIGHT FINDER (NF) RADAR TO FORM GCI UNITS THEORETICAL RADAR HURIZOS
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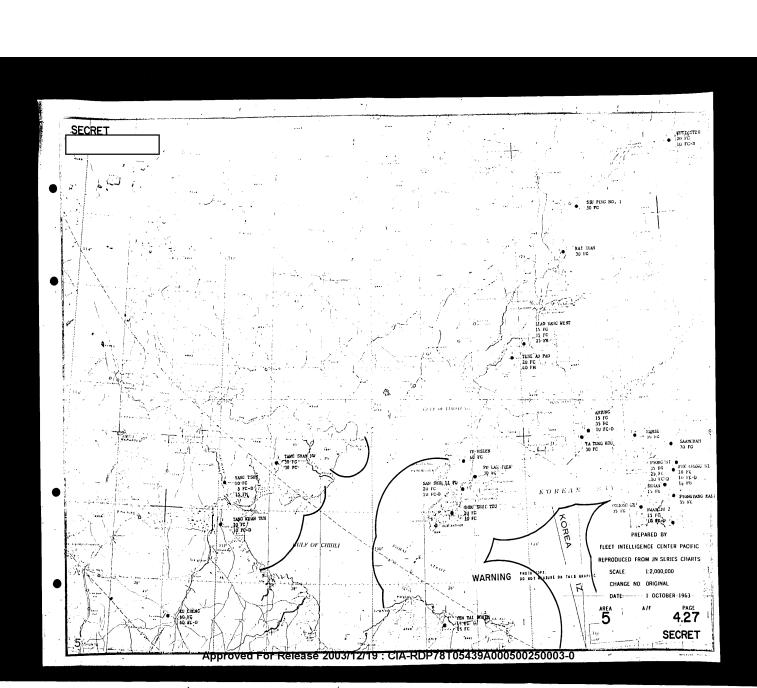


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FOR AIRCRAFT AT 50 ALTITUDE,
COMPUTED USING ESTIMATED
ILLEVATION OF RADAR SITES BK "BKDQ" (CHINESE) BAR LOCK . --- THEORETICAL RADAR HORIZON
FOR AIRCRAFT AT 2000 ALTITUDE,
COMMITTED USING ESTIMATED вн BIG MESH COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES DUMBO RADAR COVERAGE BY A SINGLE BADAR RADAR COVERAGE OF THE SHAWARD APPROACHES BY TWO HADARS FLAT PACE FF YR FORK REST RADAR COVERAGE OF THE SEARAND APPROACHES BY THREE OR HORE RADARS TACHI 18 JAP HK I KNLVEREST JAP MK I HOD 3 / JAP TYPE III so SO/BEE HOUSE SR S POON REST TOKEN TX TALL KING

Δ EW/GCI RABAR θ kC ROCK CAKE SC STORE CAKE S PONGE CAKE SEE EW LEGEND FOR EARLY WARNING RADAR ABBREVIATIONS ESTIMATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-3 AIRCHAFT FLYING ABOVE THE RADAR HORIZON. ESTIMATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-4 AIRCRAFT FLYING ABOVE THE RADAR HORIZON, THE GCI BANGES ARE ESTIMATE DAGED UNION ASSURED CONDITIONS WHICH SHOULD APPROXIMATE THE PROBABLE DETECTIVENESS OF BROOKER ASSURED AS PROSECULAR ASSURED ASSURED ASSURED AS PROSECULAR ASSURED ASSURED ASSURED ASSURED ASSURED ASSURED ASSURED ASSURED ASSURED ASSURED ASSURED AS PROSECULAR ASSURED AS PROSECULAR ASSURED AS PROSECULAR ASSURED ASSURED ASSURED ASSURED AS PROSECULAR ASSURED ASSURE RADAR COVERAGE BY A SINGLE RADAR RADAR COVERAGE OF THE SEAWARD APPROACHES BY TWO RADARS

AIRFIELD PLOTS (A/F PAGES) LOCATION OF AN AIRFIELD PRESENTLY SUPPORTING JET INTERCEPTORS THEORETICAL RAMAR HORIZON FOR AIRCRAFT AT 50° ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RABAR SITES THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES FISHBED FB FC FRESCO FC-D FRESCO-D PG PAGOT FISHPOT FL - FLASIELICIT FARHER FH FT FITTER

SURFACE TO AIR MISSILE (SAM) SITE, GUN LAYING RADAR, AND ANA PLOTS (SAM/ANA PAGES) CONFIRMED SA-2 SITE COMPTRMED CENERAL SAM SITE 0 0 SEARCH LIGHT CONTROL FIRE CAN YW PIRE WHEEL BT BEAH TRACK SUNVISOR sv WHIFF AAA SITES \Diamond LIGHT AAA GUNS (21-75mm) NUMBER WITHIN SYMBOLS DENOTES TOTAL GUNS AT SITE



EARLY WARNING RABAR PLOTS (EW PAGES) EARLY WARRING (EW) RADAR 0 EARLY WARNING / GROUND CONTROLLED INTERCEPT (GC1) RADAR Δ THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 50° ALTITUDE, COMPUTED USING ESTIPATED FLEVATION OF RADAR SITES UNKNOUN "BKTQ" (CHINESE) FOR AIRCRAFT AT 2000 ALTITUDE, COMPUTED USING ESTIMATED FLEVATION OF MADAR SITES вн BIG MESH SCR - 270 DA С. RADAR COVERAGE BY A SINCLE RADAR DUMBO RAMAR COVERAGE OF THE SHAWARD APPROACHES BY THE MANAGES ¥F FLAT FACE TACHI 18 HIGH STEVE JAP HK 1 KNIFEREST JAP HK I HOD 3 / JAP TYPE III HI-DUMBO SH SLANT HESII SO/BEE HOUSE S POON REST TALL KING ΤX CROSS SLOT CROSS FORK

AIRFIELD FLOTS (A/F PAGES) LOCATION OF AN AIRFIELD PRESENTLY SUPPORTING JET INTERCEPTORS THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 50° ALTITUDE, CONTUTED USING ESTIMATED ELEVATION OF RADAR SITES THEURETICAL RADAR HORIZON FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES : PB FISHBED FC FRESCO FO-D FG FAGOT TH FISHPOT FL. FLASHLIGHT FARMER FH

CREED CENTRELED INTEREST

ADM TROTS (GCT PAGES)

EM/GCT RABAR

EV RABAR CO-LOCATED WITH RECENT PERSON

(W) MARKE TO YORK GCT DATTS

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SE STARE WALLESS FROM THE SAME ROBLESS.

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ARECART TRUTKS ADMY THE RABAR ROBLESS.

THE CCT RADGES ARE ESTIMATES BASED UPON ASSERDE CONTITUES OF
WHICH SHIGHD APPROXIMANT EMPLOYER. STATEMENT CONTINUES OF
THE CCT RADGES ARE ESTIMATES BASED UPON ASSERDE CONTITUES.

THE CCT RADGES ARE ESTIMATES BASED UPON ASSERDE CONTITUES.

THE CCT RADGES ARE ESTIMATES BASED UPON ASSERDE CONTITUES.

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RADAR COVERAGE BY A SHIGLE RADAR

RADAR COVERAGE BY A SHIGLE RADAR

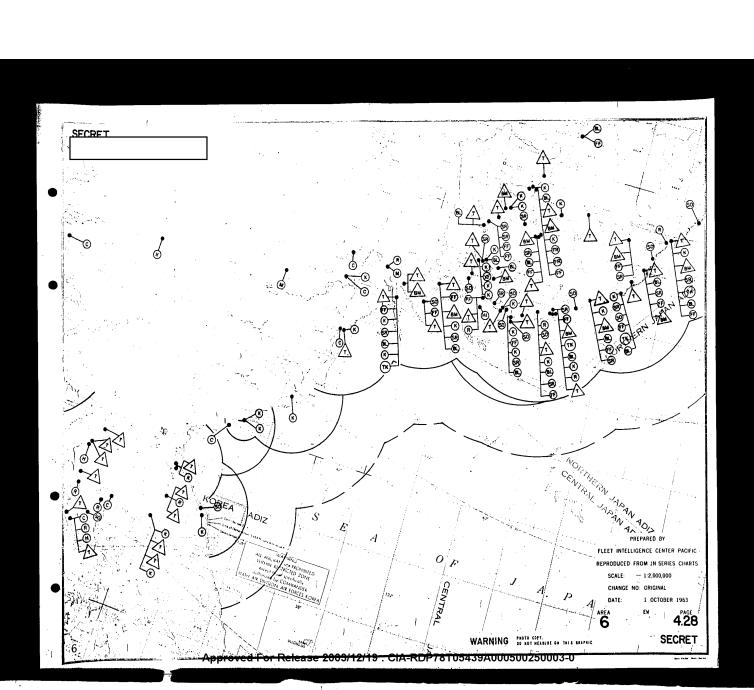
RADAR COVERAGE BY A SHIGLE RADAR

RADAR COVERAGE OF THE SEAMAND APPROXIMES BY THE RADARS

RADAR COVERAGE OF THE SEAMAND APPROXIMES BY THE RADARS

RADAR COVERAGE OF THE SEAMAND APPROXIMES BY THERE OR

SURPACE TO AIR MISSILE (SAM) SITE CUN LAYING RADAR AND AAA PLOTS (SAM/AAA PAGES) **€** CONFIRMED GENERAL SAM SITE 0 GUN LAYING RADAR SEARCH LIGHT CONTROL PW BEAM TRACK ВТ sv SUNVISOR WHITT AAA SITES **** LIGHT AAA GUNS (21-75cm) HEDIUH AAA GUNS (76-100mm) 0 HEAVY AAA GUNS (101cm and above) Δ NUMBER WITHIN SYMBOLS DENOTES TOTAL CUNS AT SITE



	EARLY WARNING RADAS	R PLUTS (EW PAGES)
	EARLY WARRING (14) MADAR EARLY WARRING (14) MADAR EARLY WARRING (15) MADAR EARLY WARRING (15) MADAR EARLY (CHINESE) BAR LOCK BIG 185H SCR - 270 DA DORDO FLAT FACE FORK REST TACHE 15 HIGH BEEVE	
у К Н1	JAP MK 1 KNIPEREST JAP MK I HOD 3 / JAP TYPE III	
я 5H 50	HI-DUMBO SLANT NESH SO/BEE HOUSE	Ma
SR T TX	SPOON REST TOKEN TALL KING CROSS SLOT	W.
XP	CROSS FORK	

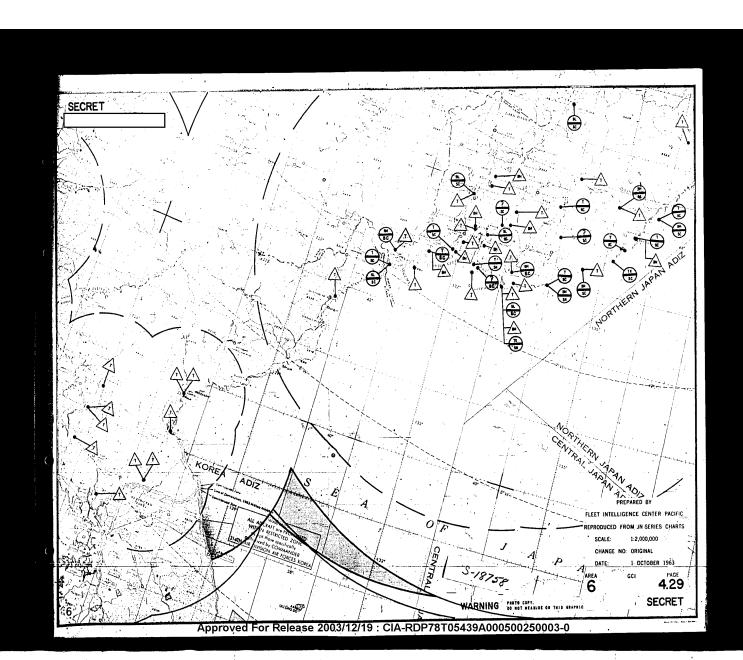
	AIRFIELD FLOTS (A/F PAGES)
•	LOCATION OF AN AIRFIELD PRESENTLY SUPPORTING JET INTERCEPTORS
_	THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 50' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES
	THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES
	AIRCRAFT CODE
PB .	. FISHBED
FC	FRESCO
FC-D	PRESCO-D
FG	'FACOT
PH	FISHPOT
, FL	FLASHLIGHT
FH	PARIER *
FT	FITTER

	GROUND CONTROLLED INTERCEPT	
RADAR MUTS (GCI PAGES)		
Δ	gw/gci radar .	
Θ	EW RADAR CO-LOCATED WITH HEIGHT FINDER (HF) RADAR TO FORM GCI UNITS	
RC	ROCK CAKE	
· sc	STORE CAKE	
sk	STORGE CAKE	
SN	SIDE NET	
	SEE EW LEGEND FOR EARLY V WARNING RADAR ABBREVIATIONS	
· —	ESTIMATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-3 AIRCRAFT FLYING ABOVE THE RADAR HORIZON.	
5**	ESTIMATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-4 AIRCRAFT FLYING ABOVE THE RADAR HORIZON.	
NOTE:	THE COL RANCES ARE ESTIMATES DACED UNCH ASSUMED CORDITIONS OF MINICIPAL SHORT AFFORMATE. THE FROMBALE EFFECTIVENESS OF INDUTIONAL RADIOS AGENCY ARCACL IN A ROSS-ASSUMED ASSUMED	
	RADAR COVERAGE BY A SINGLE RADAR	
	RADAR COVERAGE OF THE SEAWARD APPROACHES BY TWO RADARS	
	RADAR COVERAGE OF THE SEAWARD APPROACHES BY THREE OR MORE RADARS	
ı	-	

	SURFACE TO AIR MISSILE (SAH) SITE,GUN LAYING RADAR,AND AAA PLOTS (SAH/AMA PAGES)
⊗	CONFIRMED SA-2 SITE
*	CONFIRMED SA-3 SITE
6	CONFIRMED GENERAL SAM SITE
ō	GUN LAYING BADAR
ο.	SEARCH LIGHT CONTROL
7	FIRE CAN .
FU	AINE ANGEL
BT	BEAM TRACK
sv	BUNVISOR
w	MICER
	AAA SITES
\Q	LIGHT AAA GUNS (21-75mm)
Ö	HEDIUH AAA CUNS (76-100mm)
Δ	HEAVY AAA GUNS (101mm and above)
	NUMBER WITHIN SYMBOLS DENOTES TOTAL GUNS AT SITE



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EARLY WARNING RADAR PLOTS (EW PAGES) EARLY WARNING (EW) RADAR Δ EARLY WARNING / GROUND CONTROLLED INTLEGERT (GCI) RADAR THEORETICAL HADRE BURGOS
FOR AIRCRAFT AT '50' ACTITUDE,
COMPUTED USING ESTIMATED
ELEVATION OF RADRE SITES BK BL BAR LUCK FOR AIRCRAFT AT COOR ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RABAR SITES вн BIG MESH-C SCR - 270 DA RADAR COVERAGE BY A SINGLE RADAR RABAR COVERAGE OF THE SEARARD APPROACHES BY THE HAINARS FF FLAT PACE FORK REST 7 R RADAR COVERAGE OF THE SEAUARD APPROACHES BY THREE OR MORE RADARS TACHI 18 HIGH STEVE KNIFEREST JAP HK I HOD 3 / JAP TYPE III HI-DUMBO SH SLANT HESIL 8 R S POON REST TOKEN ' TX TALL KING CROSS SLOT CROSS FORK

AIRFIELD PLOTS (A/F PAGES)

THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 50' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES

THEORETICAL RADAR HORIZON FOR AIRCRAPT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES

AIRCRAFT CODE

FC FRESCO FRESCO-D FC-D FG PAGOT FH FISHPOT FL FLASHLIGHT FH PARMER FT FITTER

1

EW/GC1 RADAR EW RADAR CO-LOCATED WITH RELIGHT FINDER (NF) RADAR TO FORM GCI UNITS θ ĸc ROCK CAKE SK SIDE NET ESTIMATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-3 AIRCHAFT FLYING ABOVE THE RADAR HORIZON, THE CCI MANCES AND ESTIMATES MAKED BURN ASSUMED CREDITIONS WHICH SHOULD APPROXIMENT THE PROBABLE PRECTIVENESS OF DEDIVIDUAL MANUS ACHIEF AREACY IN A SOUGH AS PROCT. THESE MAKES MAY WAST CONSIDERARY WITH TAKET ASPECT, HALL CRESS, AREACY WILL BE DETECTED BY BY MARKES PRIOR TO REACHING THE CCI HORIZON. RADAR COVERAGE BY A SINGLE RADAR RADAR COVERAGE OF THE SEAWARD APPROACHES BY TWO RADARS RADAR COVERAGE OF THE SEAMARD APPROACHES BY THREE OR HORE RADARS

⊛

CONFIRMED GENERAL SAM SITE 0 CUN LAYING RADAR 0

SEARCH LIGHT CONTROL

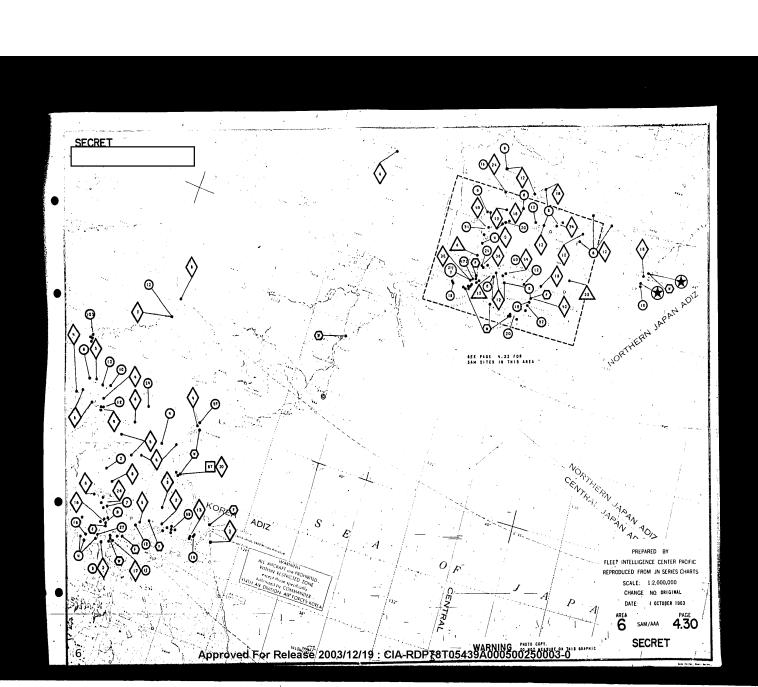
BT SUNVISOR , sv

WHITE

AAA SITES

♦ -HEDIUM AAA CUNS (76-100mm) HEAVY AAA GUNS (101mm and above)

NUMBER WITHEN SYMBOLS DENOTES TOTAL CUNS AT SITE



EARLY WARNING RABAR PLOTS (EW PAGES) 0 Δ EARLY WARNING / GROUND CONTROLLED INTERCEPT (GCI) RADAR THEORETICAL RADAR HORIZOS FOR ATRICART AT 50' ALTITUDE, COMPUTED USING ESTINATED ELEVATION OF RADAR SITES UNKNOWN BK "BKDQ" (CHINESE) BL . BAR LOCK --- THEORETICAL RADAR HORIZON
FOR AIRCRAFT AT 2000' ALTITUDE,
COMPUTED USING ESTIMATED
ELEVATION OF RADAR SITES вн DUMBO FF FLAT PACE APPROACHES BY TWO RADARS 72 FORK REST PADAR COVERAGE OF THE SEAHARD APPROACHES BY THREE OR HORE RADARS HIGH SIEVE ні j JAP MK I KNIPEREST JAP MK I HOD 3 / JAP TYPE 111 \$0 SO/BEE HOUSE 82 SPOON REST TOKEN TK TALL KING

AINFIELD FLOTS (A/F PACES)

LOCATION OF AN AINFIELD PRESENTLY SUPPORTING
JET INTERCEPTORS

TRECORPTICAL RADAR HORIZON FOR AIRCRAFT AT
50° ALTITUDE, COMPUTED USING ESTIMATED
ELEVATION OF MAINS SITES

THEORETICAL RADAR HORIZON FOR AIRCRAFT AT
2000° ALTITUDE, COMPUTED USING ESTIMATED
ELEVATION OF RADAR SITES

AIRCRAFT CODE

FB FISHERD

FC FRESCO

FC-D FRESCO-D

FG FAGOT

FH FISHIVIT

FL FLASHLIGHT

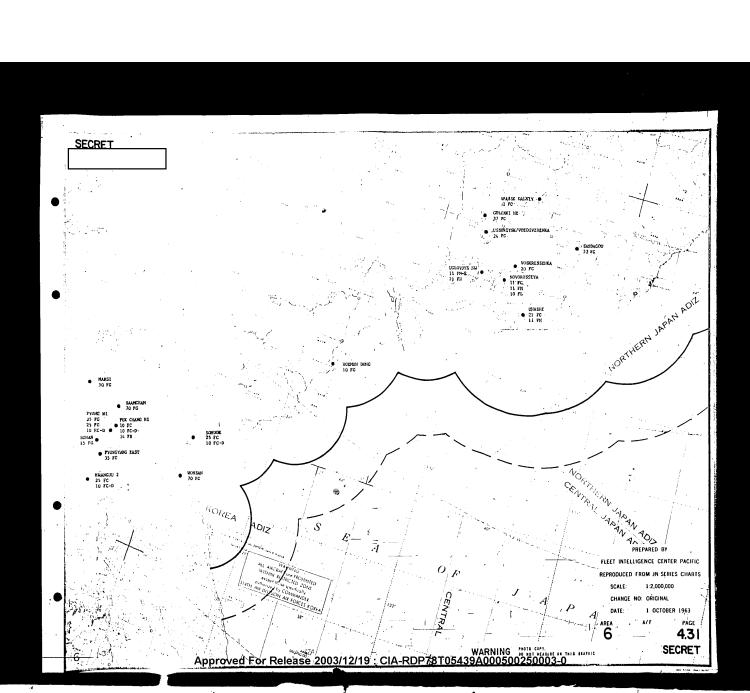
PH

FT

PARHER

FITTER

SURFACE TO AIR MISSILE (SAM) SITE, GUN LAYING RADAR, AND AAA PLOTS (SAM/AAA PAGES) CONFIRMED SA-2 SITE 0 GUN LAYING RADAR 0 SEARCH LIGHT CONTROL FIRE CAN FIRE WIELL BŤ BEAM TRACK SUNVISOR WILTER AAA SITES **◊** LIGHT AAA GUNS (21-75mm) - HEAVY AAA GUNS (101mm and above) NUMBER WITHIN SYMBOLS DENOTES TOTAL GUNS AT SITE

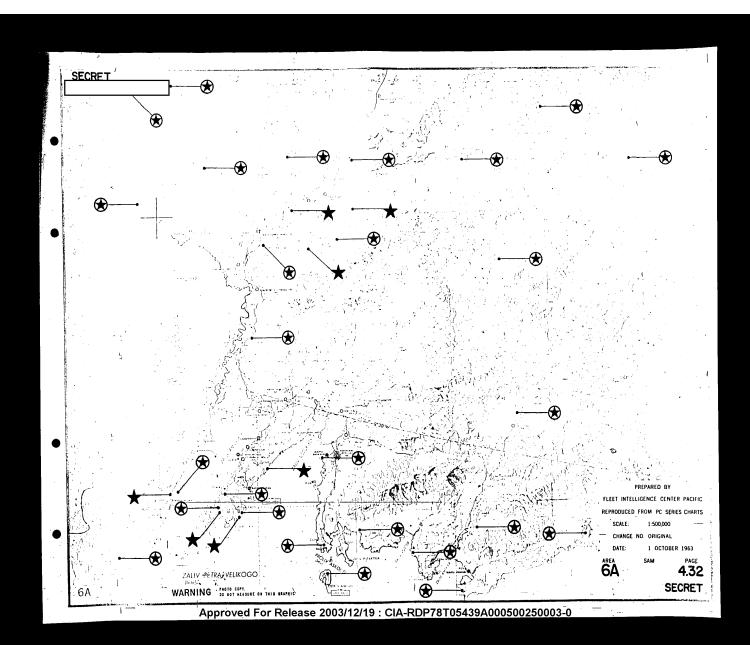


0 Δ THEORETICAL RADAR RORLEOS:
FOR AIRCRAFT AT 50° ALTITUDE,
COMPUTED USING ESTIPATED
FLEVATION OF RADAR SITES UNKNOW "BKDQ" (CHINESE) ВX BAR LOCK FOR AIMCRAFT AT 2000 ALTITUDE, COMPUTED USING ESTIMATED EXEVATION OF BABAR SITES BIG MESH RADAR COVERAGE BY A STRELE RADAR DUMBO RADAR COVERAGE OF THE SEAVARD APPROACHES BY TWO RADARS FF FLAT FACE FR FORK REST TACHI 18 . HIGH STEVE JAP HK I KNIFEREST JAP HK I HOD 3 / JAP TYPE III вн 50 SO/REE HOUSE SR S POON REST TOKEN TK TALL KING

AIRFIELD PLOTS (A/F PAGES) LOCATION OF AN AIRFIELD PRESENTLY SUPPORTING JET INTERCEPTORS THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 50' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES FB FISHBED FC FRESCO FC-D FRESCO-D FG FAGOT PH FL FLAS HLIGHT PH PARHER FT FITTER

	GROUND CONTROLLED INTERCEPT RADAR PLOTS (CCI PAGES)
Δ	EW/GCI RADAR
θ	EW RADAR CO-LOCATED WITH HEIGHT FINDER (18F) RADAR TO FORM GCI UNITS
. RC	ROCK CAKE
sc	STORE CAKE
1 SK	S PORGE CAKE
SN	SIDE NET
	SEE EW LEGERD FOR EARLY WARNING RADAR ABBREVIATIONS
	ESTIMATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-3 AIRCRAFT FLYING ABOVE THE RADAR HORIZON.
	ESTIMATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-4 AIRCRAFT FLYING ABOVE THE RADAR HORIZON,
NOTE:	THE OCI BNOCES ARE ESTIMATES MACID UNDA ASSUMED CONDITIONS MINICIA SMOODA APPROXIMENT THE PROMUNIC FETCHINNESS OF INDIVIDUAL RADIAGS ACHIST AIRCRAFT IN A ROSE-ON ASPECT. THESE RADIAGS HAY WANY CONSERBALLY WITH TARGET ASPECT, IN ALL CASES, AIRCRAFT WILL BE DETECTED BY EW RADIAGS FRIOR TO REACHING THE CGI HORIZON.
	RADAR COVERAGE BY A SINGLE RADAR
	RADAR COVERAGE OF THE SEAWARD APPROACHES BY TWO RADARS
	RADAR COVERAGE OF THE SEAWARD APPROACHES BY THREE OR MORE RADARS

SURFACE TO AIR MISSILE (SAM) SITE,GUN LAYING RADAR,AND AAA PLOTS (SAM/AAA PAGES) ☻ CONFIRMED SA-3 SITE . 0 CONFIRMED GENERAL SAN SITE GUN LAYING RADAR 0 FIRE CAN FIRE WHEEL 37 BEAH TRACK SUNVISOR WHIFF \Diamond LIGHT AAA GUNS (21-75mm) HEDIUM AAA CUNS (76-100mm) Δ HEAVY AAA CUNS (101mm and above)



EARLY WARNING RADAR PLOTS (EW PAGES) Δ EARLY MARNING / GROUND CONTROLLED INTERCEPT (GCI) RADAR DECORPTICAL RADAR HORIZON FOR ATRORAFT AT 50° ALTITUDE, COMPUTED USING ESTIPATED FLEVATION OF RADAR SITES UNXNOWN BK "BKDO" (CHINESE) ' --- THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES SCR - 270 DA ' DUNGO · RADAR COVERAGE BY A SINGLE KANAR ** FLAT PACE APPROACHES BY TWO RADARS 72 FORK REST PADAR COVERAGE OF THE SEAMARD APPROACHES BY THREE OR MORE RADARS HIGH SIEVE JAP HK I KNIFEREST JAP HK I HOD 3 / JAP TYPE III SH SLANT NESH 50 SO/BEE HOUSE SE S POON REST TOKEN CROSS FORK

> AIRFIELD PLOTS (A/F PAGES) LOCATION OF AN AIRFIELD PRESENTLY SUPPORTING JET INTERCEPTORS THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 50' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES FISHBED FC FRESCO FC-D FRESCO-D FH PISHPOT FL FLASHLIGHT PH PARMER FT FITTER

GROUND CONTROLLED INTERCEPT
RADAR PLOTS (OCT PAGES)

EWICCI RADAR

EW MADE COLOCATED WITH RESCRIF FINDER

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SC STARE CAME

SC STARE CAME

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ESTIMATED MAXIMUM EFFECTIVE COL RADICES AGAINST A-1

ARREAGY TRYTHE ABOUT THE MADE MERITION.

THE COL RADARS ARE SITHATED MADE DAYN ASSURED CONDITIONS

MOTE:

THE COL RADARS AGAINST ARREAGY IN A ROSE-ON ASPECT.

THESE MADES MAY CONSIDERAL WITH TAREAT ASPECT,

IN ALL CASES, ARECRAFF WILL BE DETECTED BY EW RADARS PROBE

TO REACHING THE COL ROBARD

RADAR COVERAGE BY A SINGLE RADAR

RADAR COVERAGE BY A SINGLE RADAR

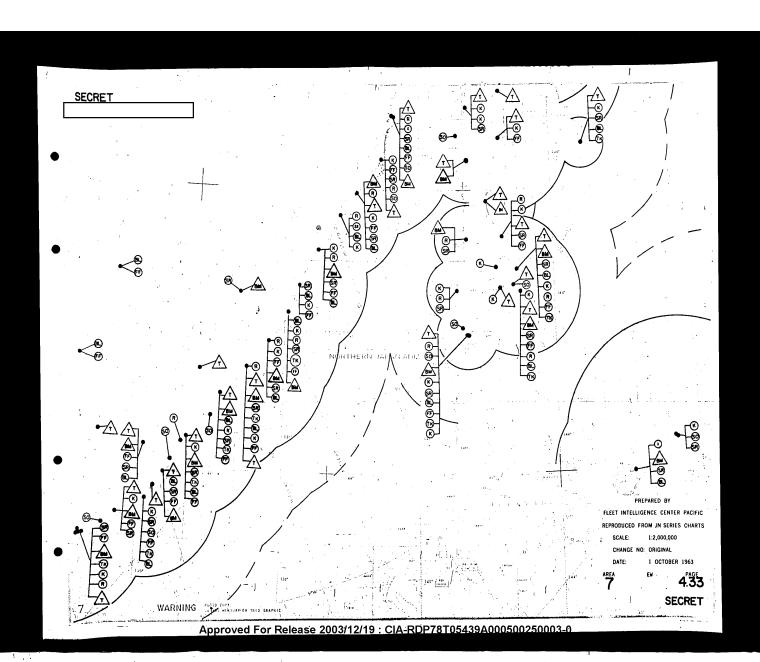
RADAR COVERAGE BY THE SAMAND APPROACHES BY THOU RADARS

RADAR COVERAGE OF THE SEAMAND APPROACHES BY THOU RADARS

RADAR COVERAGE OF THE SEAMAND APPROACHES BY THOU RADARS

RADAR COVERAGE OF THE SEAMAND APPROACHES BY THOUR RADARS

SURFACE TO AIR HISSILE (SAM) SITE,GUN LAYING RADAR,AND AAA PLOTS (SAM/AAA PAGES) CONFIRMED GENERAL SAM SITE 0 GUN LAYING RADAR SEARCH LIGHT CONTROL FIRE CAN PIRE VIELL BEAM TRACK sv SUNVISOR WHITE LIGHT AAA GUNS (21-75mm) MEDIUM AAA CUNS (76-100mm) HEAVY AAA CUMS (101mm and above) NUMBER WITHIN SYMBOLS DENOTES TOTAL GUNS AT SITE



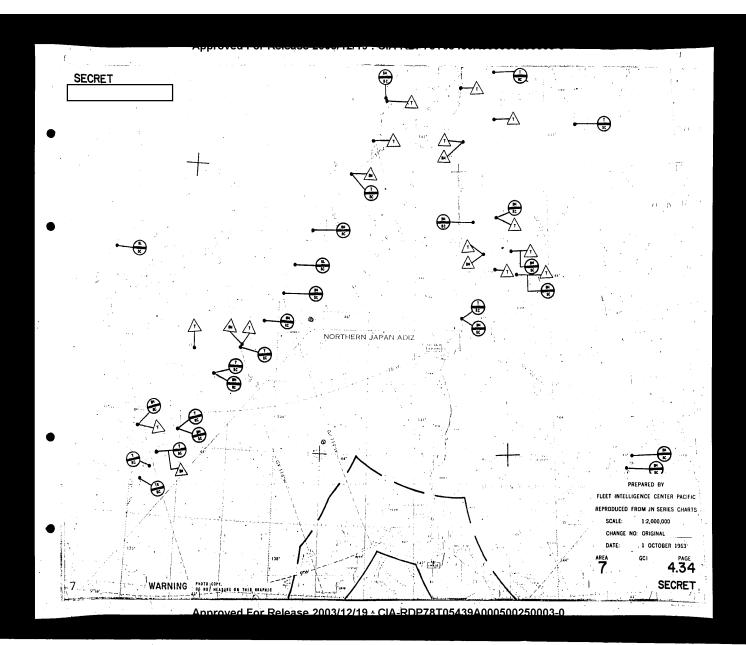
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	EARLY WARNING RAIL	R PLOTS (EW PAGES)	
0	EARLY WARNING (EW) RADAR		
Δ	EARLY WARNING / GROUND CONTROL	LED INTERCEPT (GCI) BADAR	
1	UNKNOWN	THEORETICAL RADAM HORIZON FOR AIRCRAFT AT 50' ALTITUDE,	
BK	"BKDQ" (CHINESE)	COMPUTED USING ESTIMATED FLEVATION OF RABAR SITES	
NL.	BAR LUCK	THEORETICAL RADAR HORIZON	
ън	BIG HESH	FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED	
c	SCR - 270 DA	ILEVATION OF RADAR SITES	
Þ	DOMENO	RADAR COVERAGE BY A SINCLE MADAR	
**	FLAT FACE	APPROACHES BY TWO HADARS	
72	FORK REST	RADAR COVERAGE OF THE SEAWARD	
н	TACHI 18	APPROACHES BY THREE OR MORE RADARS	
HI	HIGH SIEVE		
1	JAP HK I		
ĸ	KNIFEREST	, v	
P	JAP MK I MOD 3 / JAP TYPE 111		
2	HI-DUNBO		
ка	SLANT MESH		
so	SO/MEE HOUSE .		
SIL	SPOON REST		
7	TOKEN		
π	TAIL KING	•	
x	, CROSS SLOT		
XF	CROSS FORK		
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	AIRFIELD PLOTS (A/F PAGES)	
•	LOCATION OF AN AIRFIELD PRESENTLY SUPPORTING JET INTERCEPTORS	
- -	THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 50' ALTITUDE, COMPUTED USING ESTIPATED ELEVATION OF RADAR SITES	
•	THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED FLEVATION OF RADAR SITES	
	ATRICRAFT CODE	
73	FISHBED	
TC .	TRESCO	
FC-D	FRESCO-D -	
₹G	FAGOT	
FH	FISHPOT	
FL FH	PLASICIGHT PARMER	
PT.	PITTER	

	GROUND CONTROLLED INTERCEPT RADAR PLOTS (GCI PAGES)
Δ	ew/gci radar
Θ	EW RADAR CO-LOCATED WITH HEIGHT FINDER (NF) NADAR TO FORM GCI UNITS
RC	ROCK CAKE
sc	STONE CAKE
sĸ	SPORGE CAKE
SN	SIDE NET
<u> </u>	SEE EV LEGEND FOR EARLY WARNING RADAR ABBREVIATIONS
<u> </u>	ESTIMATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-3 AIRCRAFT FLYING ABOVE THE RADAR HORIZON.
	ESTIMATED MAXIMUM EFFECTIVE GCI NANCES AGAINST A-4 AIRCRAFT FLYING ABOVE THE RADAR MORIZON.
NOTE:	THE COI MANCES ARE ESTIMATES MAKED UNDA ASSURED COUDITIONS UNDER SHOOM APPEARMENT IN THE FROMBLE PERFOCITIVENESS OF INDIVIDUAL RADIAS AGAINST AIRCRAFT IS A BOSS-ON ASPECT. THESE RANGES HAY WAY COSSEDERALLY WITH ARREST ASPECT, IN ALL CASES, AIRCRAFT WILL BE DETECTED BY EV MANASS FRIOR FOR REACHING THE COI INDIVIDED.
	RADAR COVERAGE, BY A SINGLE RADAR
	RADAR COVERAGE OF THE SEAWARD APPROACHES BY TWO RADARS
	RADAR COVERAGE OF THE SEAMARD APPROACHES BY THREE OR MORE RADARS
,	

	SURFACE TO AIR MISSILE (5AM) SITE GUN LAYING RADAR AND AMA PLOTS (SAM/AMA PAGES)
€	CONFIRMED SA-2 SITE
*	CONFIRMED SA-3 SITE
6	COMPIRMED GENERAL SAM SITE
0	GUN LAYING RADAR
□	SEARCH LIGHT CONTROL
P .	FIRE CAN
FW	AISE MEET
BĪ	BEAM TRACK
sv	SUNVISOR
w .	MHIETY
	AAA SITES
\Diamond	LIGHT AAA GUNS (21-75mm)
0	MEDIUM AAA GUNS (76-100mm)
Δ	HEAVY AAA GUNS (101 mm and above)



EARLY WARNING RADAR PLOTS (EW PAGES) 0 EARLY WARNING (EW) RADAR Δ EARLY WARNING / GROUND CONTROLLED INTERCEPT (GCI) RABAR THEORETICAL RADAR HORIZOS
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AINFIELD FLOTS (A/F PACES)

LOCATION OF AN AIRFIELD PRESENLY SUPPORTING JET INTERCEPTORS

THEORETICAL MAND HORIZON FOR AIRCRAFT AT SO'O' ALTITUME, CONSUMED ISSING ESTIMATED ELEVATION OF BANKS SITES

THEORETICAL RADAY HORIZON FOR AIRCRAFT AT 2000' ALTITUME, COMPUTED USING ESTIMATED ELEVATION OF MARKS SITES

AIRCRAFT CODE

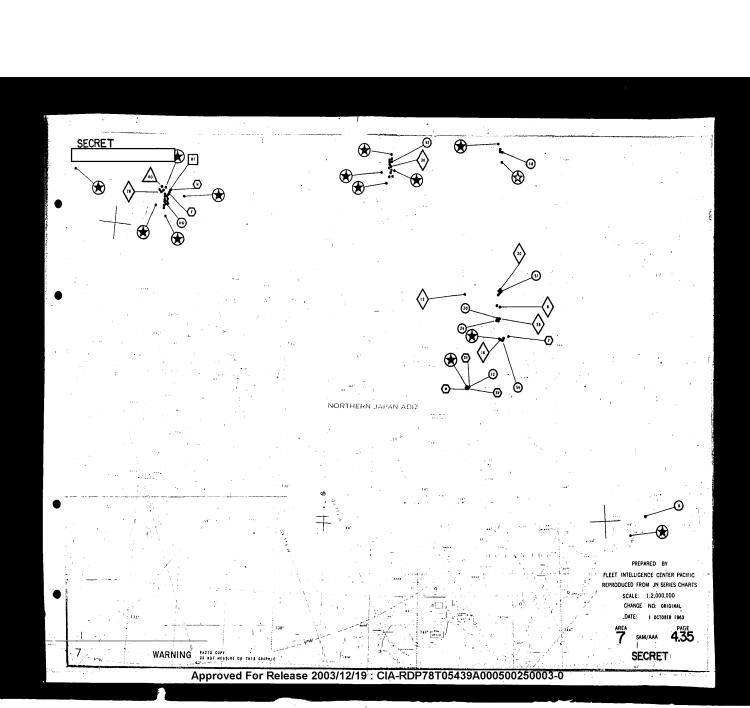
75 YISHRED

FC PRESCOFC-D PRESCO-D
FG PAGOT
FH FISHRET
FL FLASHLIGHT
FM FARER
FT FITTER

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Δ EW RADAR CO-LOCATED WITH HEIGHT FINDER (HF) RADAR TO FORM GCI UNITS θ STONE CAKE S PONGE CAKE SIDE NET SEE EW LEGEND FOR EARLY WARNING RADAR ABBREVIATIONS ESTIDATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-3 AIRCRAFT FLYING ABOVE THE RADAR HORIZON. ESTIMATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-4 AIRCRAFT FLYING ABOVE THE RADAR HORIZON. THE GOT ANGES ARE ESTIMATE ASSED UPON ASSUMED CORDITIONS
WHICH SHOULD AFFORDMENT THE PROMABLE EFFECTIVENESS OF
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THESE RANGES HAY WAY CONSIDERABLY WITH TARGET ASPECT,
IN ALL CASES, ARECAST WILL BE DETECTED BY EW RADASS FRIOR
TO REACHING THE GOT HORIZON. NOTE: RADAR COVERAGE BY A SINGLE RADAR RADAR COVERAGE OF THE SEAWARD APPROACHES BY TWO RADARS RADAR COVERAGE OF THE SEAHARD APPROACHES BY THREE OR HORE RADARS

SURFACE TO AIR HISSILE (SAM) SITE GUN LAYING RADAR AND AAA PLOTS (SAM/AAA PAGES) CONFIRMED SA-2 SITE **⊛** CONFIRMED SA-3 SITE CONFIRMED GENERAL SAN SITE GUN LAYING RADAR SEARCH LIGHT CONTROL FIRE WHEEL BT BEAH TRACK sv SUNVISOR VICTOR \Diamond LIGHT AAA GUNS (21-75mm) 0 HEDIUM AAA GUNS (76-100mm) Δ HEAVY AAA GUNS (101mm and above) NUMBER WITHIN SYMBOLS DENOTES TOTAL GUNS AT SITE



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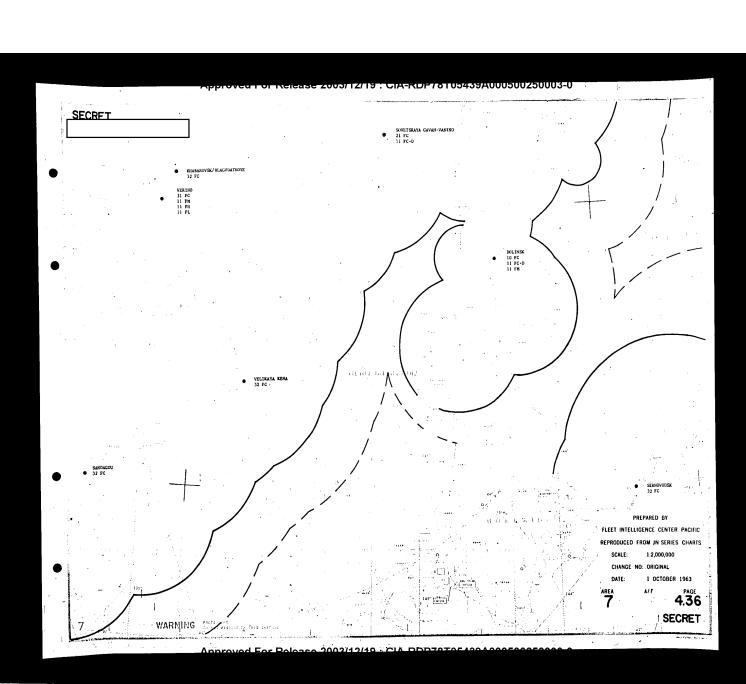
		, °
	EARLY WARNING RAIM	AR PLOTS (EW PAGES)
0	EARLY WARNING (EW) RADAR	*.
Δ	EARLY WARNING / GROUND CONTROL	LED INTERCEPT (GCI) RADAR
1	UNICHONIN	THEORETICAL RADAR HORIZON
BX	"BKDQ" (CHINESE)	COMPUTED USING ESTIMATED FLEVATION OF RABAR SITES
NL.	BAR LOCK	THEORETICAL MADAR HORIZON
BH	BIG HESH .	FOR ATROPAST AT 2000' ALTITUDE, COMPUTED USING ESTIMATED
c	SCR - 270 DA	ELEVATION OF MADAR SITES
D	DUMBO	RADAR COVERAGE BY A SINGLE RADAR
77	FLAT PACE	APPROACHES BY THE MARKS
7R	FORK REST	RADAR COVERAGE OF THE SEAUARD
Н,	TACHI 18	APPROACHES BY TIMEE OR NORE RADARS
HI	HIGH SIEVE	
J	JAP HK I	•
ĸ	KNIVEREST	•
?	JAP MK I HOD 3 / JAP TYPE III	
R	HI-DUNDO	
SH	SLANT NESH	
\$0	SO/BEE HOUSE .	
SR	S POON REST	
т	TOKEN	
TK	TALL KING	
x	CROSS SLOT	
XF	CROSS FORK	

	AIRFIELD PLOTS (A/F PAGES)
•	LOCATION OF AN AIRPIELD PRESENTLY SUPPORTING JET INTERCEPTORS
_	THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 50' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES
	THEORETICAL RADAR HORIZON FOR AIRCRAPT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES
	AIRCRAFT CODE
73	FISHBED
FC	TRESCO
FC-D	TRESCO-D
FG	PAGOT
FH	FISHPOT
r.	FLASHLIGHT
PH	YARHER O
m	FITTER

1	
	GROUND CONTROLLED INTERCEPT RADAR PLOTS (GCI PAGES)
. Д	EW/GCI RADAR
Θ	EW RADAR CO-LOCATED WITH HEIGHT FINDER (NO) RADAR TO FORM GCI UNITS
RC	ROCK CAKE
sc	STONE CAKE
SK.	S PORGE CAKE
SN	SIDE MET
	SEE EU LEGEED FOR EARLY MARNING RADAR ABBREVIATIONS
	ESTIMATED HAXIMUM EFFECTIVE GCI RANGES AGAINST A-3 AIRCRAFT FLYING ABOVE THE RADAR HORIZON.
	ESTIMATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-4 AIRCRAFT FLYING ABOVE THE RADAR HORIZON.
NOTE:	THE COL BAMES ARE ESTIMATES BASED UNDS ASSUMED CONDITIONS WHICH SHOULD APPOINTMENT FOR FROMBLE FFRETUNENESS OF INDIVIDUAL RADIAS AGRINGT AIRCRAFT IN A HOSE-ON ASPECT. THESE RANGES MY VARY CONSERRALLY WITH AREAST ASPECT, IN ALL CASES, AIRCRAFT WILL BE DETECTED BY EM RADASS FRIOR TO REACHING THE GOL GIORIZON.
	RADAR COVERAGE BY A SINGLE RADAR
	RADAR COVERAGE OF THE SEAWARD APPROACHES BY TWO RADARS .
	RADAR COVERAGE OF THE SEAWARD APPROACHES BY THREE OR HORE RADARS

	SURFACE TO AIR MISSILE (SAM) SITE, CUN LAYING RADAR, AND AMA FLOTS (SAM/AMA PAGES)
⊗	CONFIRMED SA-2 SITE
*	CONFIRMED SA-3 SITE
69	CONFIRMED GENERAL SAM SITE
0	GUN LAYING BADAR
	SEARCH LIGHT CONTROL
¥	FIRE CAN
FH	PIRE WEEL
BT .	BEAH TRACK
sv	SUNVISOR
¥	WILES
	, ·
	AAA SITES
◊	LIGHT AAA GUNS (21-75cm)
.01	HEDIUH AAA CUNS (76-100mm)
Δ	HEAVY AAA CUNS (101=m and above)
	NUMBER WITHIN SYMBOLS DENOTES TOTAL GUNS AT SITE
	- <u>-</u> - <u>1</u>

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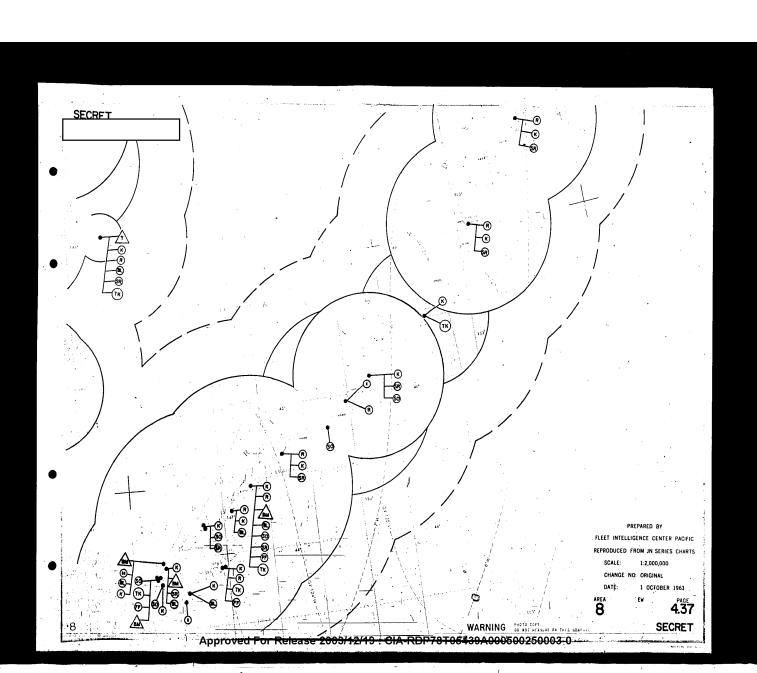


EARLY WARNING (EW) RADAR Δ EARLY WARNING / GROUND CONTROLLED INTERCEPT (GCI) RADAR THEORETICAL RADGE HORIZOS
FOR ATROGATT AT 50° ALTITUDE,
COMPUTED USING ESTIPATED
FLEVATION OF RABAR SITES BK "BKDQ" (CHINESE) BL BAR LUCK --- THEORETICAL RABAR BORIZON YOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RABAR SITES NIC HESH С SCR - 270 DA FF RADAR COVERAGE OF THE SEAHAND APPROACHES BY THO RADARS FLAT FACE TR FORK, REST RADAR COVERAGE OF THE SEAVARD APPROACHES BY THREE OR MORE RADARS TACHT 18 ш HIGH BIEVE KNIFEREST JAP MK I HOD 3 / JAP TYPE III HI - DUHBO SH SLANT HESH SO/BEE HOUSE 6 R S POON REST TOKEN TK TALL KING CROSS SLOT

> AIRFIELD PLOTS (A/F PAGES) LOCATION OF AN AIRFIELD PRESENTLY SUPPORTING JET INTERCEPTORS THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 50' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES THEORETICAL RADAR MORIZON FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES 78 /~ PC FRESCO FRESCO-D FC-D FG FAGOT FISHPOT 100 FIL PL. FH FARMER FITTER

GROUND CONTROLLED INTERCEPT RADAR PLOTS (GCI PAGES) Δ EW/CCI RADAR EW RADAR CO-LOCATED WITH HEIGHT FINDER (HF) RADAR TO FORM GCI UNITS θ ROCK CAKE sc STORE CAKE SK SPORGE CAKE SIDE NET SEE EW LEGERD FOR EARLY WARNING RADAR ABBREVIATIONS ESTIMATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-3 AIRCRAFT FLYING ABOVE THE RADAR HORIZON, ESTIMATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-4 AIRCRAFT FLYING ABOVE THE RADAR HORIZON. THE GCI BANGES ARE ESTEMBLES BASED UPON ASSURED CARDITIONS WHICH CHURCH APPROXYMENT THE PROBABLE PRIFICTIVENESS OF PROVINCIAL RANGES AND THE PROBABLE PRIFICTIVENESS OF THE PROBABLE PRIFICTIVENESS AND THE PROBABLE PRIFIC NOTE: RABAR COVERAGE BY A SINGLE RADAR RADAR COVERAGE OF THE SEAWARD APPROACHES BY TWO RADARS RADAR COVERAGE OF THE SEAWARD APPROACHES BY THREE OR MORE RADARS

CONFIRMED SA-2 SITE æ CONFIRMED SA-3 SITE CONFIRMED GENERAL SAM SITE 0 FIRE CAN FIRE WICELL rw. BEAM TRACK BT sv BUNVISOR AAA SITES ◊ LIGHT AAA GUNS (21-75mm) 0 HEDIUM AAA GUNS (76-100mm) Δ. HEAVY AAA GUNS (101 mm and above) NUMBER WITHIN SYMBOLS DENOTES TOTAL CURS AT SITE



	EARLY WARNIN	IG RABAR PLOTS (EW PAGES)
0	EARLY WARNING (EW) RADAS	·
Δ	EARLY WARNING / GROUND	CONTROLLED INTERCEPT (GCI) RABAR
1	UNICHOUN	THEORETICAL RADAM MORIZOS FOR AIRCRAFT AT 50' ALTITUDE,
BK	"BKDQ" (CHINESE)	COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES
BL	BAR LOCK	THEORETICAL RADAR HORIZON
ВН	BIG HESH	FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED
c	SCR - 270 DA	ELEPATION OF HADAR SITES
D	DUHBO	RADAR COVERAGE BY A SINGLE RADAR
**	FLAT FACE	APPROACHES BY TWO HADARS
72	FORK REST	FADAR COVERAGE OF THE SEASARD
H	TACHI 18	APPROACHES BY THREE OR MORE RADARS
HI	HIGH SIEVE	• • •
J	JAP HK I	and the second second
ĸ	KNIVEREST	•
P	JAP HK I HOD 3 / JAP TY	PE III
R	HI-DUMBO	
SH	SLANT MESH	
50	SO/BEE HOUSE	,
SE	S POON REST	
т	TOKEN	
TK	TALL KING	
×	CROSS SLOT	•
X.F	CROSS FORK	
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Δ	EW/GCI RADAR
θ	EW RAIMAR CO-LOCATED WITH HEIGHT FINDER (NF) HADAR TO FORM CCI UNITS
RC	ROCK CAKE
sc	STORE CAKE
SK	SPONGE CAKE
SN	SIDE NET
	SEE EW LEGEND FOR EARLY WARNING RADAR ABBREVIATIONS
_	ESTIMATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-3 AIRCRAFT FLYING ABOVE THE RADAR HORIZON.
	ESTIMATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-4 AIRCRAFT FLYING ABOVE THE RADAR HORIZON.
NOTE:	THE GGI RANGES ARE ESTHARTES BASED UPON ASSUMED CONDITIONS MINICI SHOULD APPROXIMATE THE PROMMER EFFECTIVENESS OF INDIVIDUAL ADMINIS AGAINST ARREART IN A ROSEON ASPECT. THESE RANGES MAY MARY COSSIDERARMY WITH TARGET ASPECT, IN ALL CASES, ARREAFT WILL BE DETECTED BY EW RADASS PRIOR DEMONSTRATE THE GGI HONZON.
	BADAR COVERAGE BY A SINGLE RADAR
	RADAR COVERAGE OF THE SEAWARD APPROACHES BY TWO RADARS
	RADAR COVERAGE OF THE SEAWARD APPROACHES BY THREE OR HORE RADARS
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SURFACE TO AIR MISSILE (SAM) SITE, CUN LAYING RADAR AND ANA PLOTS (SAM/ANA PAGES)

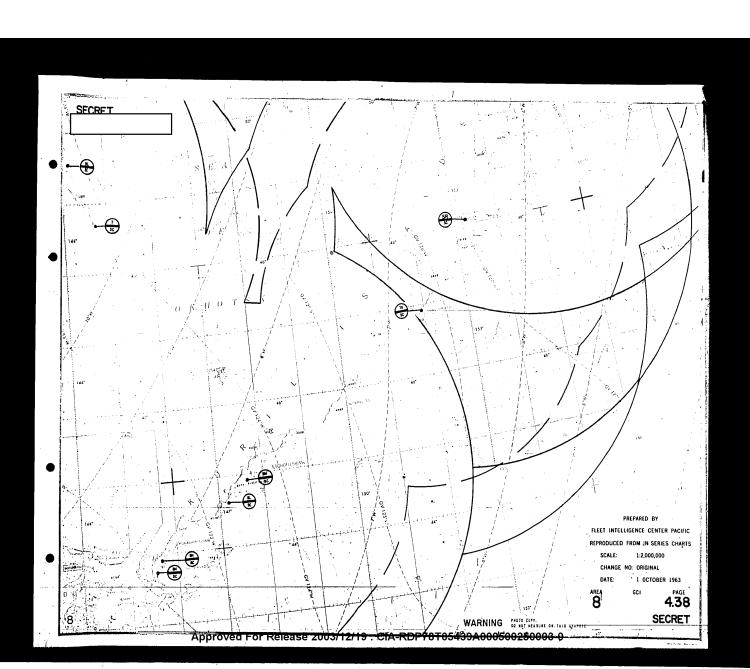
CONFIRMED SA-2 SITE

CONFIRMED SA-3 SITE CONFIRMED GENERAL SAM SITE GUN LAYING RADAR SEARCH LIGHT CONTROL

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LOCATION OF AN AIMPIELD PRESENTAL SUPPORTING JET INTERCEPTORS TROCETTICAL MANA HORIZON FOR AIRCRAFT AT SO ALTHITME, COMPUTED USING ESTIMATED ELEVATION OF RAMA SITES THE LEVATION OF RAMA SITES AIRCRAFT CODE YE FISHED YC PRESCO YG PRESCO YG PRESCO YG PRESCO YG PRESCO YG PRESCO YG PAGOT YH FISHINGT	'		€9 :		⊛	COM
LOCATION OF AN AINTEED PRESENTAL SUPPORTING JET INTERCEPTION THORRESTICAL MANA HORIZON FOR AIRCRAFT AT SOUTH AINTERC, CONTURED USING ESTIMATED ELEVATION OF RADAR SITES THORRESTICAL RADAR SITES THORRESTICAL RADAR SITES AIRCRAFT CODE YE FISHERD FC FRESCO YC-D FRESCO-D YG FAGOT YH FISHERD TL FLASHELIGHT		AIRFIELD PLOTS (A/F PAGES)			*	cose
THE INTERESTORS THEORETICAL BADAR HORIZON FOR AIRCRAFT AT SUBJECT OF RADAR STITES A MITTIME, COMMUTED USING ESTIMATED ELEVATION OF RADAR STITES AIRCRAFT CODE THE FISHERD TC TRESCO FOR TRESCO-D FOR TAGOOT THE FISHEROT TL FLASHELIGHT		LOCATION OF AN AIRPIELD PRESENTLY SUPPORTING			8	CON
50' ALTITURE, COMPUTED USING ESTIMATED ELEVATION OF RANK BITES THEORETICAL RADAN HONLION FOR ABSCRAFT AT 2000' ALTITURE, COMPUTED USING ESTIMATED BT SV 9 ALECARIT CODE YE FISHEND FC FRESCO YE-D FRESCO-D YG FAGOT YH FISHENDT TL FLASHGIGHT	•				0	GUN
ELEVATION OF BADAR SITES	<u> </u>	THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 50' ALTITUDE, COMPUTED USING ESTIMATED				5EA
2000 ALTIVUE, COMPUTED USING ESTIMATED BT ALECAST CODE YS FISHED YC-D FRESCO YG-D FRESCO-D YG FAGOT YH FISHENT TL FLASHELIGHT		ELEVATION OF RADAR SITES			7	FIR
ELEVATION OF RADAR SITES AIRCRAFT CODE FO FRESCO FC-D FRESCO-D FG FAGOT FH FISHROT FL FLASHELIGHT		THEORETICAL RADAR HORIZON FOR AIRCRAFT AT			FW	719
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TL TIASILIGHT	₹G	PAGOT			0	HE
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		FIAL OIL
	rv.	FIRE WHEEL
	BT	BEAH TRACK
	sv	SUNVISOR
	u	MHILL
_		AAA SITES LIGHT AAA CHRS (21-75mm) MEDIUM AAA CHRS (76-100mm) MEANY AAA CHRS (101mm and above) MINDER VITHIN STROKES DENOTES TOTAL CURS AT SITE



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	EARLY WARNING RAIL	AR HLOTS (EN PAGES)
0	EARLY WARNING (EW) RABAR EARLY WARNING / GROUND CONTROL	LED INTERCEPT (GCI) KADAR
· 7 BK 'BL	UNKNOIM "BKIQ" (CHINESE) BAR LOCK	THEORETICAL RADAR HOWITCH FOR AIRCRAFT AT 50 ALTITUDE, COMPUTED USING ESTIMATED TELEVATION OF RADAR SITES
BH C	BIG HESH SCR - 270 BA	THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 2000 ALTITUDE COMPUTED USING ESTIMATED ILLUATION OF RADAR SITES
D 77 78	DUMBO · FLAT FACE FORK REST	RADAR COVERAGE BY A SINGLE RADAR RADAR COVERAGE OF THE STAMARD APPROACHES BY TWO RADARS
HI R	TACHI 18 HIGH SIEVE	APPROACHES BY THREE OR HORE RADARS
į.	JAP MK 1 KNIFEREST JAP MK I MOD 3 / JAP TYPE III	
R SH	HI-DUMBÓ BLANT MESII	•
50 SR T	SO/BEE HOUSE SPOON REST TOKEN	
TK X	TALL KING CROSS SLOT	
` x7	CROSS FORK	, ,

	•	AIRFIELD FLOTS (A/F PAGES)
	•	LOCATION OF AN AIRPIELD PRESENTLY SUPPORTING JET INTERCEPTORS
	_	THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 50' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES
		THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES
	· •	AIRCRAFT CODE
Ì	FB	FISHBED
١	FC	PRESCO .
1	FC-D	FRESCO-D
١	FG	FACOT
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l	я. , _і	FLASIELIGHT
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	GROUND CONTROLLED INTERCEPT RADAR PLOTS (CCI PAGES)
Δ	EN/GCI BADAR
Θ.	EW RAIMR CO-LOCATED WITH HEIGHT FINDER (HF) RAIMR TO FORM GCI UNITS
RC	ROCK CARE
sc	STORE CARE
SK	SPONGE CAKE
SN	SIDE NET
	SEE EW LEGETH FOR EARLY WARNING RADAR ABBREVIATIONS
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NOTE:	THE GCI RANGES ARE ESTHATES BASED UPON ASSUMED COMBITIONS UNIONED APPROXIMATE THE PROBABLE FFFETTWENESS OF INSTITUTION, AND AS AGAINST ARRORATE IN A ROSSEM ASPECT, THESE RANGES HAY WANT CONSIDERABLY WITH TAKEST ASSUMENT, IN ALL CASIS, A HACKART WILL BE DETECTED BY BU RADRES PRIOR TO REACHING THE CCI ROSTED.
	RADAR COVERAGE BY A SINGLE RADAR
	RADAR COVERAGE OF THE SEAWARD APPROACHES BY TWO RADARS
	RADAR COVERAGE OF THE SEAMARD APPROACHES BY THREE OR HORE RADARS

	SURFACE TO AIR MISSILE (SAM) SITE, GUN LAYING RADAR, AND AAA PLOTS (SAM/AAA PAGES)
⊕ `	CONFIRMED SA-2 SITE
*	CONFIRMED SA-3 SITE
€	CONFIRMED GENERAL SAM SITE
0	GUN LAYING RADAR
	SEARCH LIGHT CONTROL
P	PIRE CAN
FW	PIRE WHEEL
BT	BEAN TRACK
sv	SUNVISOR
w	WILDTP
	AAA SITES
\Diamond	LIGHT AAA GUNS (21-75cm)
0	HEDIUH AAA GUNS (76-100mm)
Δ	HEAVY AAA CONS (101mm and above)

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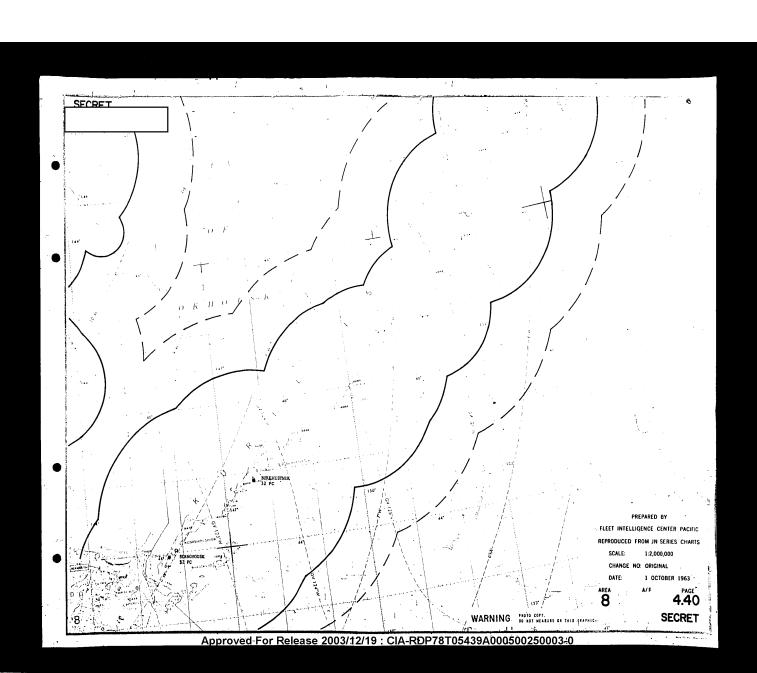
EARLY WARNING RADAR PLOTS (EW PAGES) 0 EARLY HARNING / GROUND CONTROLLED INTERCEPT (GGI) RADAR Δ THEORETICAL RADAG HERIZOS
FOR AIRCRAFT AT 50° ALTITUDE,
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FLEVATION OF RAMAE SITES "BKDQ" (CHINESE) BK BAR LOCK --- THEORETICAL RADAR HORIZON FOR ATRICAST AT 2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES BIG HESH RADAR COVERAGE BY A SINGLE KADAR ринво APPROACHES BY TWO RADARS 77 FLAT PACE 72 FORK REST PADAR COVERAGE OF THE SEAMARD APPROACHES BY THREE OR MORE RADARS TACHI 18 JAP HK I KNIFEREST JAP MK I MOD 3 / JAP TYPE III SH SO/BEE HOUSE 50 SPOON REST SR TOKEN TΚ TALL KING CROSS SLOT XF

AIRFIELD PLOTS (A/F PAGES) LOCATION OF AN AIRFIELD PRESENTLY SUPPORTING JET INTERCEPTORS THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 50' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES THEORETICAL RADAR MORIZON FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES FISHBED FC FRESCO-D FC-D FG FACOT FK FISHPOT FL FLASIEL IGHT FH FT FITTER

GROUND CONTROLLED INTERCEPT RADAR PLOTS (GCI PAGES) EW/GCI RADAR Δ EW RADAR CO-LOCATED WITH HEIGHT FINDER (IF) RADAR TO FORM GCI UNITS Θ STORE CAKE SPONCE CAKE SK SN SIDE NET ESTIMATED MAXIMUM EFFECTIVE GC1 RANGES AGAINST A-3 AIRCRAFT FLYING ABOVE THE RADAR HORIZON. ESTIMATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-4 AIRCRAFT FLYING ABOVE THE RABAR HORIZON. THE CLI MANCES ARE ESTIMATES BASED UPON ASSUMED CONDITIONS WHICH SHOULD APPROXIMATE THE PROBABLE FFFECTIVENESS OF HIS TOP AND ASSUMED CONTINUED AND ASSUMED FOR ASSUMED FOR AND ASSUMED FOR AND ASSUMED FOR AND ASSUMED FOR AND ASSUMED FOR AND ASSUMED FOR AND ASSUMED FOR AND ASSUMED FOR AND ASSUMED FOR AND ASSUMED FOR AND ASSUMED FOR ASSUMED FO RADAR COVERAGE BY A SINGLE RADAR RADAR COVERAGE OF THE SEAWARD APPROACHES BY TWO RADARS RADAR COVERAGE OF THE SEAWARD APPROACHES BY THREE OR HORE RADARS

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€ CONFIRMED SA-3 SITE CONFIRMED CENERAL SAM SITE . GUN LAYING RADAR 0 SEARCH LIGHT CONTROL FW BEAM TRACK BT SUNVISOR sv WITE AAA SITES LIGHT AAA GUNS (21-75mm) MEDIUM AAA CUNS (76-100mm) Ö Δ HEAVY AAA GUNS (101mm and above) NUMBER WITHIN SYMBOLS DENOTES TOTAL GUNS AT SITE

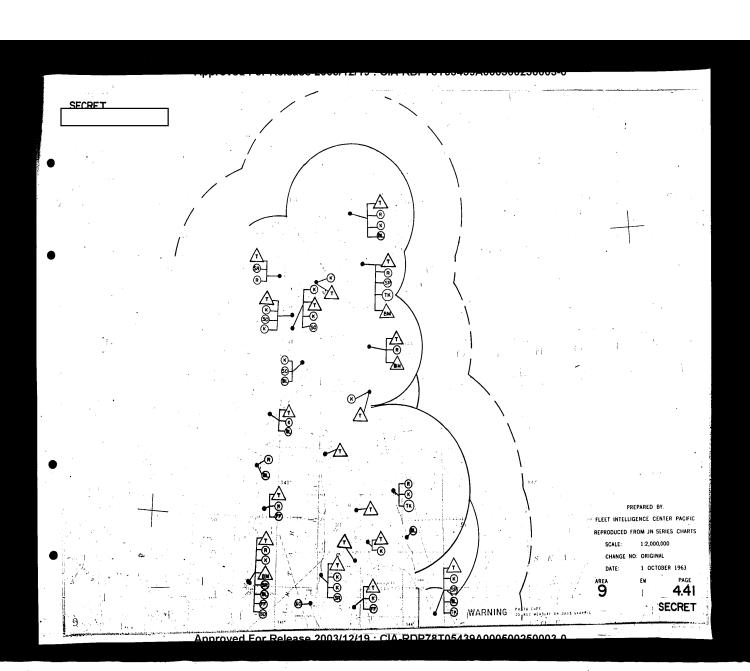


	FARLY WARNING RA	(DAR PLOTS (EV PAGES)
_		
Ó	EARLY WARNING (EW) RADAR	
Δ	EARLY WARNING / GROUND CONTR	ROLLED INTERCEPT (GCI) RADAR
1	UNKNOWN	- THEORETICAL RADAM HORIZON FOR AIRCRAFT AT 50' ALTITUM,
BK	"BKDQ" (CHINESE)	COMPUTED USING ESTIPATED ELEVATION OF RADAR SITES
NL.	BAR LOCK	THEORETICAL RADAR HORIZON
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В	TACHI 18	APPROACIES BY THREE OR HORE RADARS
HI	HIGH SIEVE	
3	JAP HK I	
K	KNIVEREST	
P	JAP HK I HOD 3 / JAP TYPE 1	11
R	RI-DUHBO	
вн	SLANT MESH	
50	SO/BEE HOUSE	
SR	S POON REST	
٠, ۲	TOKEN	
TK	TALL KING	
x	CROSS SLOT '	
XF	CROSS FORK	**

	AIRFIELD PLOTS (A/F PAGES)	
•	LOCATION OF AN AIRFIELD PRESENTLY SUPPORT JET INTERCEPTORS	ING
_	THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 50' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES	
	THEORETICAL RADAR HORIZON FOR AIRCRAFT AT	
	2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES	
	2000' ALTITUDE, COMPUTED USING ESTIMATED	
73	2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES	
PB PC	2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES AIRCRAFT CODE	
	2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES AIRCRAFT CODE FISHEED	
FC	2000 ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF BABAR SITES ARECAPT CODE FISHBED FRESCO	
FC-D_	2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF BABAR SITES AIRCRAFT CODE FISHBED FRESCO FRESCO-D	
FC-D FG	2000' ALTITUDE, COMPUTED USING ESTHATED ELEVATION OF BABAR SITES ATECRATY CODE FISHBED FRESCO FRESCO-D FAGOT	
FC-D FG FH	2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF BABAR SITES AIRCRAFT CODE FISHEED FACOT FISHEOT	

	CROUND CUNTROLLED INTERCEPT RADAR PLUTS (GCI PAGES)
Δ	EW/GCI RADAR
Ө	EW RADAR CO-LOCATED WITH REIGHT FINDER (16') RADAR TO FORM GCI UNITS
RC	ROCK CAKE
sc	STORE CAKE
SK	S PONCE CAKE
SN	SIDE NET
	SEE EW LEGEND FOR EARLY WARNING RADAR ABBREVIATIONS
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	RADAR COVERAGE OF THE SEAWARD APPROACHES BY TWO RADARS
	RADAR COVERAGE OF THE SEAWARD APPROACHES BY THREE OR MORE RADARS

CONTENED SA-J SITE CONTINUED CONTENAL SAN SITE CON LAYING BADAR CON LAYING BADAR FIRE VIELE FIRE CAN FIRE VIELE ST. BEAM TRACK SV. SUNVISOR WHIFF AAA SITES LIGHT AAA CUMS (21-75mm)	COMPIEMED SA-2 SITE CONFIEMED SA-3 SITE CONFIEMED GENERAL SAM SITE CON LATTHE RADAR SEASAGE LIGHT CONTROL FIRE UMEEL BEAN TRACK SUNVISOR WHITF		SURFACE TO AIR HISSILE (BAM) SITE, GUN LAYING
CONFINED SA-3 SITE CONFINED CENERAL SAN SITE CIN LATING RADAR SEABCH LIGHT CONTROL FIRE VARIET ST PIRE VARIET ST BEAM TRACK SV SUMVISOR WHIPF AAA SITES LIGHT AAA GUNS (21-75mm)	CONTINUED SA-) SITE CONFIRMED CEMERAL SAM SITE GIN LATHE BADAR SEARCH LIGHT CONTEGL FIRE CAN FIRE WHEEL BEAM TRACK SUMVISOR WHITF AAA SITES LIGHT AAA CUMS (21-75mm) MEDIUM AAA CUMS (74-100mm)		RADAR AND ANA PLOTS (SAM/ANA PAGES)
CONTINED CENERAL SAN SITE CIN LAYING RADAR SEARCH LIGHT CONTROL FIRE CAN FIRE VAIREL ST BEAM TRACK SUNVISOR WHIFF AAA SITES LIGHT AAA GUNS (21-75mm)	CONTINUED CEMERAL SAM SITE CON LATINE RADAR SEASCH LIGHT CONTROL FIRE CAN FIRE WHEN BEAM TRACK SUNVISOR WHITF AAA SITES LIGHT AAA CURS (21-75mm) MEDIUM AAA CURS (74-100mb)	9	COMPIRMED SA-2 SITE
CIN LATING RADAR SEARCH LIGHT CONTROL FIRE CAN FIRE VIEEL BEAM TRACK SUNVISOR WHIFF AAA SITES LIGHT AAA CUNS (21-75mm)	GUN LAYING RADAR SEARCH LIGHT CONTROL TIRE CAN TIRE VARIEL BEAN TRACK SUNVISOR WILLY AAA SITES LIGHT AAA CUNG (21-75mc) MEDIUN AIA CUNG (74-100mk)	*	CONFIRMED SA-3 SITE
PIRE ON PIRE MIEEL SEAN TAKE SUNVISOR WHIPF AAA SITES LIGHT AAA CIMS (21-75mm)	SEASCH LIGHT CONTROL FIRE CAN FIRE MIREL BLAN TRACK SUNVISOR WILLTF AAA SITES LIGHT AAA CUMS (21-75mm) MEDIUM AIA CUMS (74-100mh)	9	CONFIRMED GENERAL SAM SITE
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SV SUNVISOR U WHIFF AAA SITES LIGHT AAA GUNS (21-75mm)	SUNYISOR WHITF AAA SITES LIGHT AAA CURS (21-75mm) MEDIUM AAA CURS (76-100mm)	yu 🏄	AINS MIERT
U WHIFF AAA SITES LIGHT AAA GUNS (21-75mm)	AAA SITES LIGHT AAA CURS (21-75mm) MEDUN AAA CURS (76-100mm)	BT	BEAH TRACK
AAA SITES LIGHT AAA CUNS (21-75mm)	AAA SITES LIGHT AAA CUNG (21-75mm)) NEDIUN AAA GUNG (76-100mm)	sv	SUNVISOR
LIGHT AAA CUNS (21-75mm)	LIGHT AAA CUNS (21-75mm) MEDIUM AAA CUNS (76-100mm)	w	MHIDA
LIGHT AAA CUNS (21-75mm)	LIGHT AAA CUNS (21-75mm) MEDIUM AAA CUNS (76-100mm)		
•) MEDIUM AAA GUNS (76-100mm)		AAA SITES
		Q	LIGHT AAA GUNS (21-75mm)
		0	HEDIUM AAA GUNS (76-100mh)

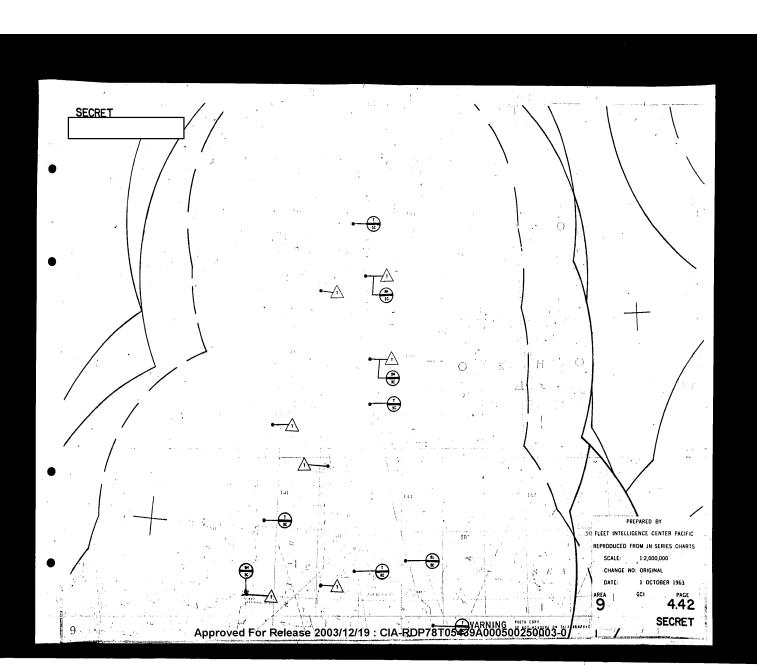


EARLY WARNING RABAR PLOTS (EW PAGES) EARLY WARNING (EW) RADAR 0 EARLY WARNING / GROUND CONTROLLED INTERCEPT (GC1) HADAR Δ THEORETICAL RADGE HORIZONS FOR AIRCRAFT AT 50° ALTITUDE, COMPUTED USING ESTIMATED CLEVATION OF MADAR SITES UNKNOW BK "BKDO" (CHINESE) --- THEORETICAL RADAR HORIZON FOR ATRICAST AT 2000 ALTITUDE, COMPUTE USING ESTIMATED ELEVATION OF RADAR SITES BL BIG MESH вн С SCR - 270 DA RADAR COVERAGE BY A SINGLE HADAR DUMBO RADAR COVERAGE OF THE SHAWARD APPROACHES BY TWO RADARS 57 FLAT PACE TACHI 18 HI RIGH STEVE JAP MK 1 KNIVEREST HI-DUMBO SH SLANT HESH 50 SO/BEE HOUSE SR SPOON REST TALL KING ΤK CROSS SLOT CROSS FORK

> AIRFIELD PLOTS (A/F PAGES) LOCATION OF AN AIRFIELD PRESENTLY SUPPORTING JET INTERCEPTORS • THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 50' ALTITUDE, COMPUTED USING ESTHATED ELEVATION OF RADAR SITES, THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES FISHBED FB FC FRESCO . FRESCO-D FACOT FLASIG.TGHT ЯL *.i *. FH FARMER FT . FITTER

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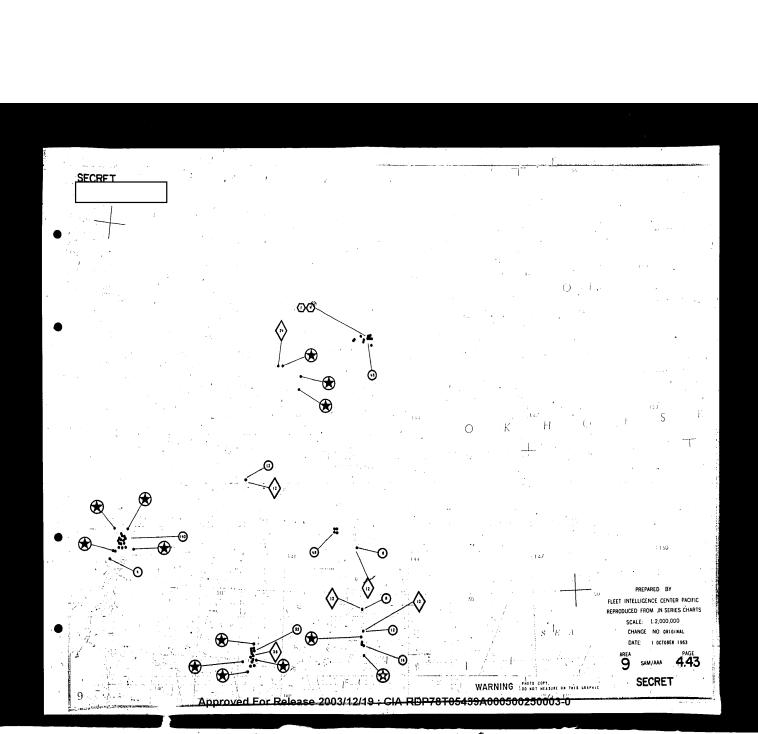


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FOR AIRCRAFT AT 2000' ALTITUDE,
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> LOCATION OF AN AIRFIELD PRESENTLY SUPPORTING JET INTERCEPTORS THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 50' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES ---AIRCRAFT CODE FB FISHBED FC FRESCO FC-D FAGOT FG FH FISHPOT · FL . FLASIELIGHT FH FARIER FT FITTER

GROUND CONTROLLED INTERCEPT RADAR PLOTS (GCI PAGES) Δ EW RADAR CO-LOCATED WITH MEIGHT FINDER (16') RADAR TO FORM GCI UNITS θ RUCK CAKE SC STORE CAKE SK SPONGE CAKE SIDE NET SEE EV LEGEND FOR EARLY WARNING RADAR ABBREVIATIONS ESTIPATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-3 AIRCRAFT FLYING ABOVE THE RADAR HORIZON. ESTINATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-4 AIRCRAFT FLYING ABOVE THE RADAR HORIZON. THE GOT BANCES ARE ESTIMATES BASED UPON ASSUMED CONDITIONS MILLOR SHOULD APPROCHAIN THE PROBABLE FEFFCHIVENESS OF INDIVIDUAL ANABYS GALINEST ARECAPT IN A ROSE-OF ASPECT.
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SURPACE TO AIR MISSILE (SAM) SITE, CUN LAYING . RADAR, AND AAA PLOTS (SAM/AAA PAGES) € CONFIRMED SA-2 STTE CONFIRMED SA-3 SITE • CONFIRMED CENERAL SAM SITE 0 FIRE CAN FW FIRE WHEEL ВТ BEAH TRACK SUNVISOR AAA SITES \Diamond LIGHT AAA GUNS. (21-75mm) 0 HEDIUH AAA GUNS (76-100mm) Δ HEAVY AAA GUNS (101mm and above) NUMBER WITHIN SYMBOLS DENOTES TOTAL CUNS AT SITE



EARLY WARNING RADAR PLOTS (EW PAGES) EARLY WARNING / GROUND CONTROLLED INTERCEPT (GCI) RADAR Δ THEORETICAL RADAR HORIZON
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AIRFIELD PLOTS (A/F PAGES)

LOCATION OF AN AIRFIELD PRESENTLY SUPPORTING JET INTECCITIONS

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TRECORTICLA RADA HORIZON FOR AIRCRAFT AT 2000' ALTHUME, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES

AIRCRAFT CODE

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FC FRESCO

FC-D FRESCO-D

FG FAGOT

FRE TISHEOT

FLASIELICIT

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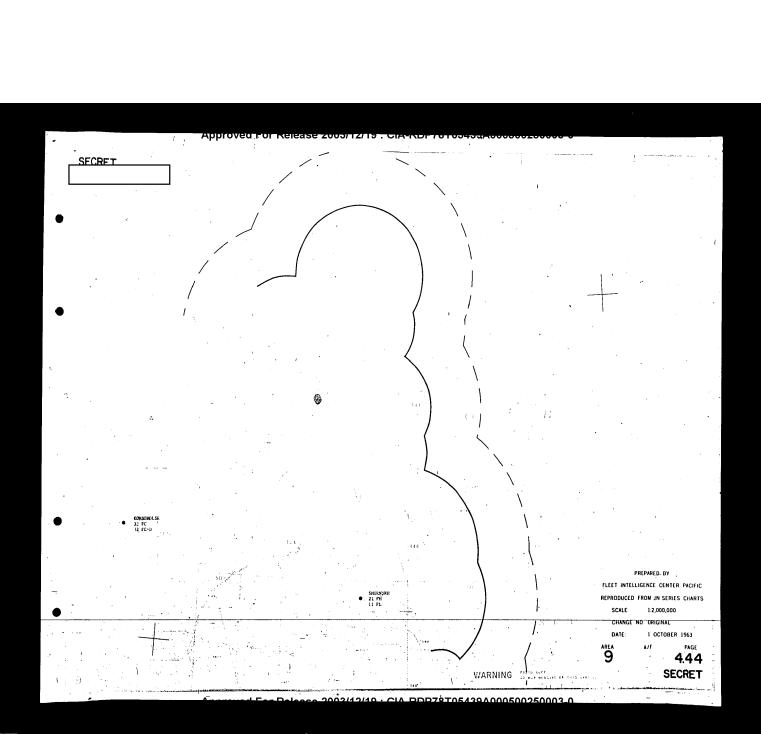
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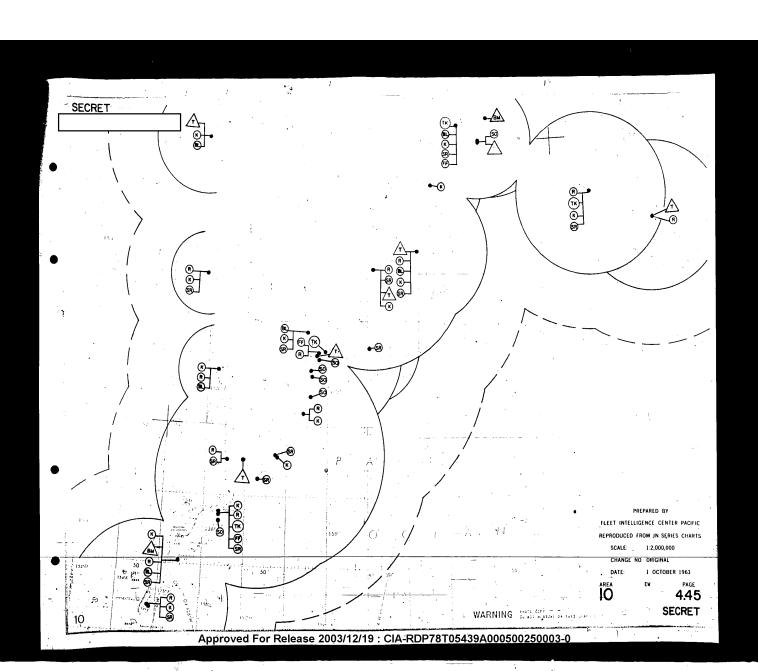
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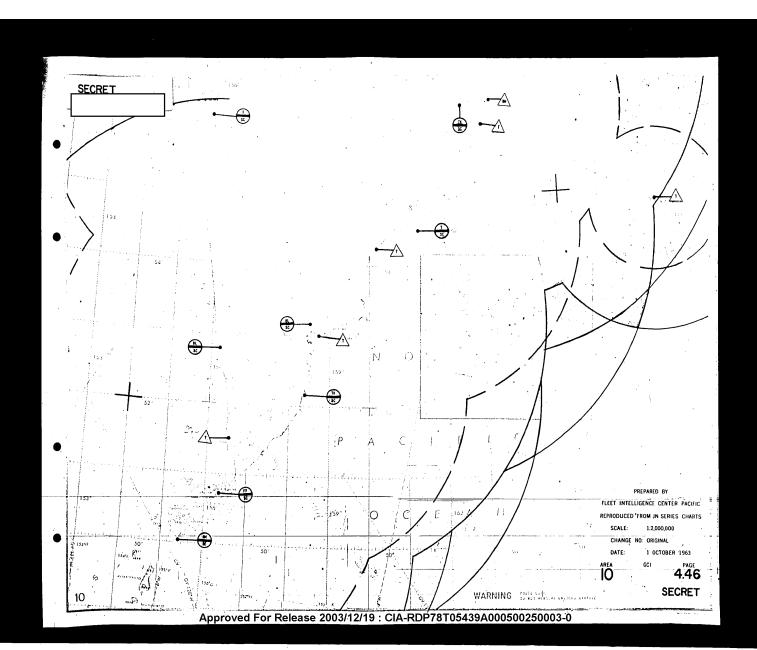
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EARLY WARNING RADAR PLOTS (EW PAGES) EARLY WARRING (LW) RABAR 0 Δ EARLY WARNING / GROUND CONTROLLED INTERCEPT (GGI) RADAR Δ EU/GCI RADAR DISCONDITION RADGE BOWLESS FOR ATRICART AT NO ALTITUDE, COMPUTED USING ESTEWAYD BLEVATION OF RADAR STOCK UNENGER FO RADAR CO-LOCATED WITH RESCRIT FINDER (NOT) RADAR TO FORH GCI UNITS θ "BKDQ" (CHINESE) ROCK CAKE FOR ATRIBUTE AND A HORSE OF THE COMPUTED USING ESTIMATED EXTRATED EXTRATED EXTRATED EXTRATED FOR STREET SC STORE CARE BIG MESH SPORGE CARE SCR - 270 tiA RADAR COVERAGE BY A SINGLE RADAR DUMBO ' SEE EW LEGERD FOR EARLY WARNING RABAR ABBREVIATIONS FLAT FACE APPROACHES BY THE RADARGE 72 ESTIMATED MAXIMUM EFFECTIVE GCT RANGES AGAINST A-3 AIRCRAFT FLYING ABOVE THE RADAR BURIZON. APPROACHES BY THREE OR PROBE RADIANS TACHI 18 ESTIMATED MAXIMUM EFFECTIVE GCI NANGES AGAINST A-4 AIRCHAFT FLYING ABOVE THE RADAR BORIZON. HIGH STEVE THE GGI RAMCES ARE ESTIMATES BASED BYON ASSURED CONDITIONS WHICH SHOULD APPROXIMATE THE PROBABLE EFFECTIVENESS OF THE BYON HELD RAMCES GAINED AND REMOVED THE AROUND A SEPECT. THESE RAMCES MAY WANT CONSIDERABLY WITH TARGET ASPECT. IN ALL CASIS, AIRCRAFT WILL BE DETICTED BY MY BABASE PRIOR TO REACHING THE GGI BRIZON. JAP HK 1 KNIFEREST HI-DUHBO RADAR COVERAGE BY A SINGLE RADAR SH SLANT HESH RADAR COVERAGE OF THE SEAWARD APPROACHES BY TWO RADARS 50 SO/BEE HOUSE RADAR COVERAGE OF THE SEAWARD APPROACHES BY THREE OR MORE RADARS SE S POON REST TOKEN 0 TALL KING ΤX CROSS SLOT ХY CROSS FORK SURFACE TO AIR HISSILE (SAM) SITE CUN LAYING RADAR AND AAA PLOTS (SAM/AAA PAGES) CONFIRMED SA-2 SITE AIRFIELD PLOTS (A/F PAGES) CONFIRMED SA-3 SITE LOCATION OF AN AIRFIELD PRESENTLY SUPPORTING . JET INTERCEPTORS 8 GUN LAYING RADAR 0 THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 50° ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES SEARCH LIGHT CONTROL F.IRE CAN THEORETICAL RADAR HOWIZON FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES ---FW FIRE WIELL вт BEAM TRACK sv SUNVISOR ATRCRAFT CODE WHIFF FB FISHBED FC FRESCO FC-D FRESCO-D 0 LIGHT AAA GUNS (21-75cm) FG --1 ,0 . FH FISHPOT HEAVY AAA GUNS (101mm and above) FLASIE.ICIT FL NUMBER WITHIN SYMBOLS DENOTES TOTAL CURS AT SITE FARMER FH FT FITTER



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AIFFIELD ILOTS (A/F PACES)

LOCATION OF AN AIRFIELD PRESENTLY SUPPORTING
JET INTRODUCTION.

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THEORETICAL RADA HORIZON FOR AIRCRAFT AT
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ARRIVATE FLYING ABOVE THE RANGE RORIZED.

ESTIMATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-3

ARRIVATE TAYING ABOVE THE RANGE RORIZED.

SOTIES TO THE CONTROL ABOVE THE RANGE RORIZED.

BOTT:

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RANGE COVERAGE BY A SINCE RADAR

RADAR COVERAGE BY A SINCE RADAR

RADAR COVERAGE BY A SINCE RADAR

RADAR COVERAGE BY THE SEASAND APPROACHES BY THOR RADARS

HORE RADARS

SURFACE TO AIR MISSILE (SAM) SITE GUN LAYING RADAR AND AAA PLOTS (SAM/AAA PAGES) ⊛ CONFIRMED GENERAL SAM SITE • 0 GUN LAYING RADAR SEARCH LIGHT CONTROL FIRE CAN вт sv SUNVISOR WHITE 0 HEDIUM AAA GUNS (76-100mm) Δ HEAVY AAA GUNS (101mm and above) NUMBER WITHIN SYMBOLS DENOTES TOTAL CURS AT SITE SECRET SEE INSET FOR ALL AND SAN SITES IN THIS AREA

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PREPARED BY FLEET INTELLIGENCE CENTER PACIFIC
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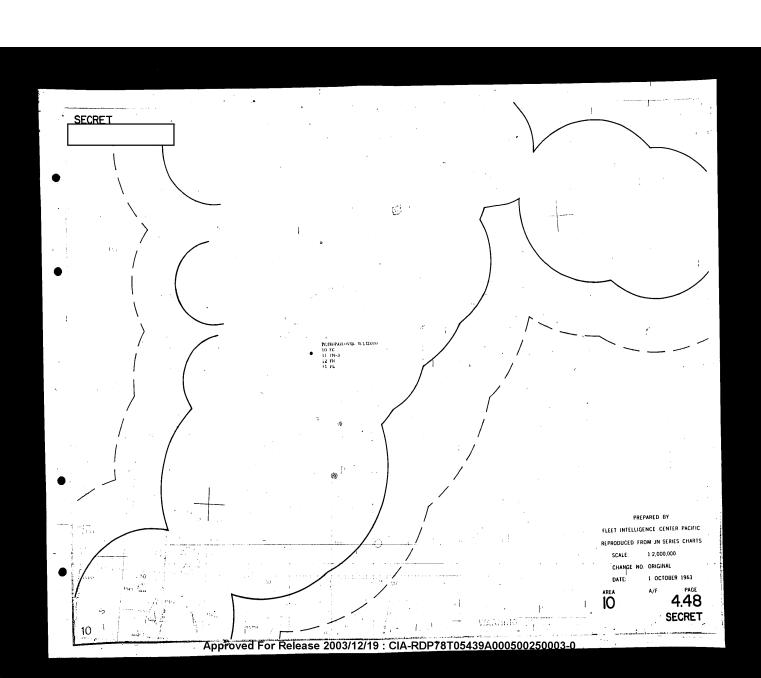
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Œ. EARLY WARNING RADAR PLOTS (EW PAGES) 0 EARLY WARRING (EW) RADAR Δ EARLY DARNING / GROUND CONTROLLED INTERCEPT (GCI) RADAR THEORETICAL NABLE HORIZOS FOR ATRICKAPT AT 50' ALTITUDE, COMPUTED USING ESTIPATED FLEVATION OF RABAR SITES UNICHOUSE --- THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 2000' ALTITUME, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES BIG MESH SCR - 270 IA DUMBO RADAR COVERAGE BY A SINGLE MAINE RADAR COVERAGE OF THE SEAMAND APPROACHES BY THE RADARS FORK REST PADAR COVERAGE OF THE SEAUARD APPROACHES BY THREE OR HURE RADARS TACHI 18 HIGH STEVE JAP HK 1 KNIVEREST JAP MK I MOD 3 / JAP TYPE 111 HI-DUMBO SH SLANT MESH SO/BEE HOUSE TALL KING CROSS SLOT CROSS FORK

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SURFACE TO AIR HISSILE (SAH) SITE GUN LAYING RADAR AND ANA PLOTS (SAH/AMA PAGES) **⊛** COMPIRMED SA-2 SITE * CONFIRMED SA-3 SITE CONFIRMED GENERAL SAM SITE GUN LAYING RADAR FIRE WHEEL вт BEAK TRACK sv SUNVISOR ◊ LIGHT AAA GUNS (21-75mm) 0 HEDIUM AAA CUNS (76-100mm) Δ HEAVY AAA GUNS (101mm and above) NUMBER WITHIN SYMBOLS DENOTES TOTAL CURS AT SITE



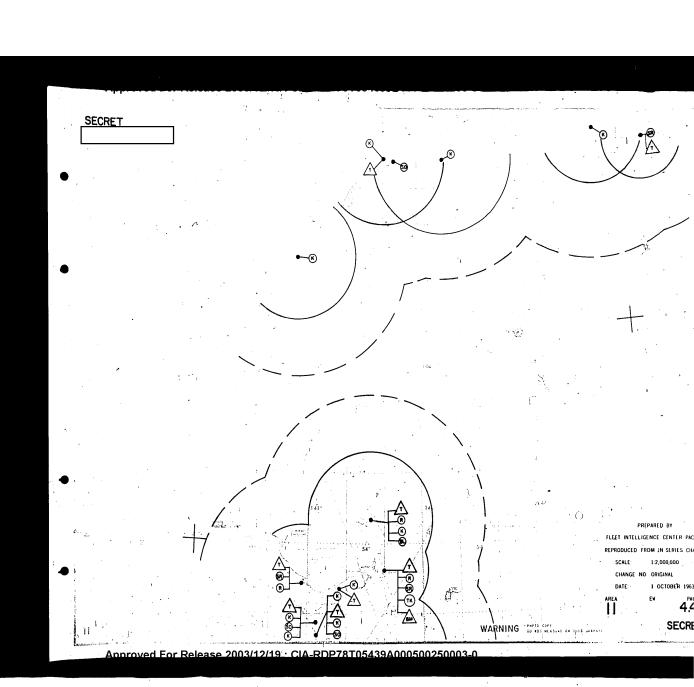
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NL.	BAR LOCK	THEORETICAL RADAR HORIZON
. PM	BIG HESH	FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED
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D	DUNGSO	RADAR COVERAGE BY A SINGLE RADAR
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YR	FORK REST	PADAR COVERAGE OF THE SEAWARD
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т	TOKEN	
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x	CROSS SLOT	
 x7	CROSS FORK	**

,	GROUND CONTROLLED INTERCEPT RADAR, PLOTS (GCI PAGES)
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*C	ROCK CAKE
\$C	STONE CARE
5X	SPONCE CAKE
. BN	SIDE NET
	SEE EW LEGEND FOR EARLY WARNING RADAR ABBREVIATIONS
- ₁	ESTIMATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-3 AIRCRAFT FLYING ABOVE THE RADAR HORIZON.
	ESTHATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-4 AIRCRAFT FLYING ABOVE THE RADAR HORIZON.
NOTE:	THE OCT BANGES ARE ESTIMATES BASED UND ASSINGE CONDITIONS WHICH SHOULD AFFECTIVE THE PROBABLE FFECTIVENESS OF INSOVIRULAL RADIAS AGRING AIRCRAFT IN A HOSE-OD AFFECT. THESE EARNESS HAV VARY COSSIDERARY WITH ARREST ASPECT. IN ALL CASES, AIRCRAFT WILL BE DETECTED BY EV MADMAS FRIOR TO REACHING THE GOT HORIZON.
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	RADAR COVERAGE OF THE SEAHARD APPROACHES BY TWO RADARS
	BADAR COVERAGE OF THE SEAWARD APPROACHES BY THREE OR HORE RADARS

		AINFIELD FLOTS (A/F PAGES)	
	•	LOCATION OF AN AIRFIELD PRESENTLY SUPPORTING JET INTERCEPTORS	
	_	THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 50' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES	١
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	SURFACE TO AIR MISSILE (SAM) SITE,GUN LAYING RADAR-AND AMA FLOTS (SAM/AMA PAGES)
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● .	CONFIRMED GENERAL SAM SITE
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,	FIRE CAN
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u	WALLEY
	AA SITES
\Diamond	LIGHT AAA GUMS (21-75mm)
Ó	HEDIUM AAA GUMS (76-100mm)
Δ	HYAVY AAA CUMS (101= and above)
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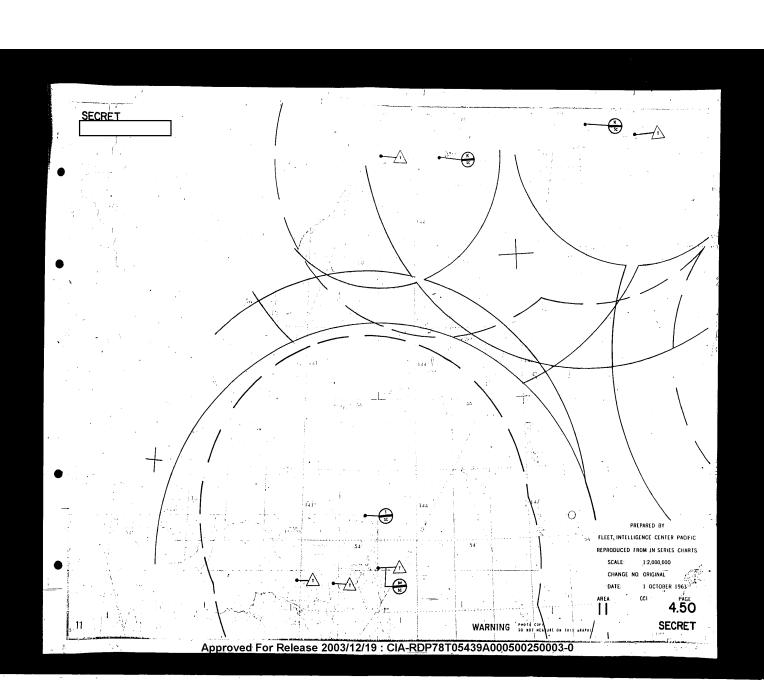


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COMPUTED USING ESTIMATED
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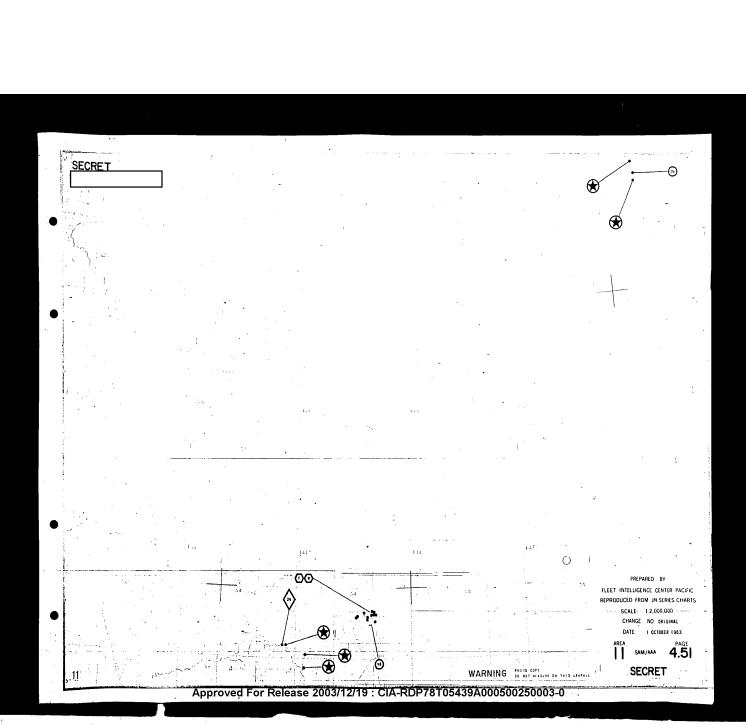
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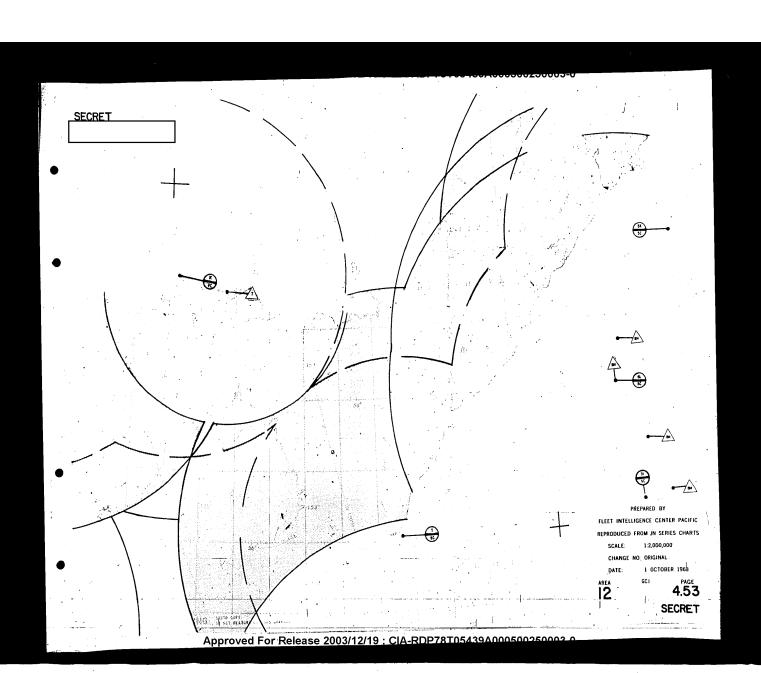
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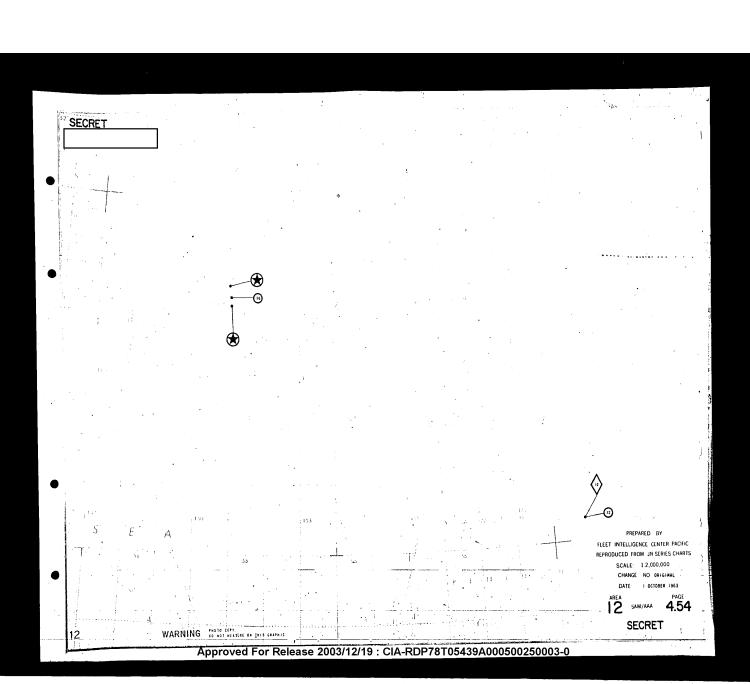
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SI SLATE RESI SO/BEE BUSSE SO/BEE BUSSE SI SPOON REST TO TERM TALL KING K CRESS SLUT X7 CROSS FORK AIMFIELD ROTS (A/F PACES) LOCATION OF AN AIMFIELD PRESENTLY SUPPORTING SET INTRECETOR LOCATION OF AN AIMFIELD PRESENTLY SUPPORTING SET INTRECETOR LOCATION OF AN AIMFIELD PRESENTLY SUPPORTING SET INTRECETOR LOCATION OF AN AIMFIELD PRESENTLY SUPPORTING SET INTRECETOR LOCATION OF AND HOLIZON FOR AIMFIELD TREASMENT OR AUGUSTO USED ESTIMATED CONTINUED SA-2 SITE CONTINUED SA-2 SITE CONTINUED SA-2 SITE CONTINUED SA-2 SITE CONTINUED SA-2 SITE CONTINUED SA-2 SITE CONTINUED SA-2 SITE CONTINUED SA-2 SITE CONTINUED SA-3 SITE CONTINUED SA-2 SITE CONTINUED SA-2 SITE CONTINUED SA-2 SITE CONTINUED SA-2 SITE CONTINUED SA-2 SITE CONTINUED SA-2 SITE CONTINUED SA-2 SITE CONTINUED SA-2 SITE CONTINUED SA-2 SITE CONTINUED SA-2 SITE CONTINUED SA-2 SITE CONTINUED SA-2 SITE CONTINUED SA-2 SITE CONTINUED SA-3 SITE CONTINUED SA-3 SITE CONTINUED SA-3 SITE CONTINUED SA-3 SITE CONTINUED SA-3 SITE AIRCRAFT CONTINUED SITE FIRE CONTINUED SA-3 SITE FIRE CONTINUED SA-4 SITE FIRE SA-4 SITES AAA SITES CILIENT AAA CINS (21-75-mm) MEDIUM AAA CINS (19-15-mm)			1			IN ALL CASES, AIRCRAFT WILL BE DETECTED BY EW HADARS PRI
SO SO/BET BUSSE MADE COVERAGE OF THE SEAMARD AFFRENCES BY THO MADRAS TO TORSE TO TALL KINC A REFIELD PLOTS (A/F PAGES) A REFIELD PRESENTLY SUPPORTING LICT INTRECEPTORS CONFIDENCE SA-2 SITE CONFIDENCE SA-2 SITE CONFIDENCE SA-2 SITE CONFIDENCE SA-3 SITE CONFIDENCE SA-3 SITE CONFIDENCE SA-3 SITE CONFIDENCE SA-3 SITE CONFIDENCE SA-3 SITE CONFIDENCE SA-3 SITE CONFIDENCE SA-3 SITE CONFIDENCE SA-3 SITE CONFIDENCE SA-3 SITE CONFIDENCE CONFIDENCE SA-1 SITE CONFIDENCE SA-3 SITE CONFIDENCE SA-4 SITE SEAMATANCE SEAMOR TACK SEAMOR TACK SEAMOR TACK SEAMOR TACK SUBJECT TO ALR CONS (74-100-mm) A SITEMATOR AAS SITES LIGHT MAN CONS (74-100-mm) THE FISHINGT THE FISHINGT THE FISHINGT THE FAMORE SA-4 SITE MAN SITES BUILDING SA-4 SITE REAL TACK SEAMOR TACK SE	4					RADAR COVERAGE BY A SINGLE RADAR
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AIRFIELD PLOTS (A/F PACES) LOCATION OF AN AIRFIELD PRESENTLY SUPPORTING JET INTERCEPTORS LOCATION OF AN AIRFIELD PRESENTLY SUPPORTING JET INTERCEPTORS TREMENTATION, CONSIDER STREET AT SUPPORT AND STREET STREET TREMENTATION OF ARRICANT AT 2000 AUTHOR, CONSIDER USING ESTIMATED ELEVATION OF RAINS SITES THE WELL ST BEAR TACK AIRCART CORE ARECANT ORE ARECANT CORE FOR FRESCO FC-D FRESCO-D FC-D FRESCO-D FR FISHING THERE AND STREET AMA SITES LIGHT AND ONE (21-75mm) HEAVY AMA CORS (16-100mm)			Į.			
AND ILLO FLOTE (APP PACES) LOCATION OF AN AIRFEILD PRESENTLY SUPPORTING JET INTERCEPTORS THEORETICAL MANA HORIZON FOR AIRCRAFT AT SUPPORTING OF ALBERT AND STATES THEORETICAL MANA HORIZON FOR AIRCRAFT AT SUPPORTING OF PALMS STATES THEORETICAL MANA HORIZON FOR AIRCRAFT AT 2000 AUTHOR, COMPUTED BUSING ESTIMATED ELEVATION OF RAIMS STATES AIRCRAFT CODE ARE FIRE COD FOR FRESCO FC-D FRESCO-D FC-D FRESCO-D FR FISHING F			1			SURFACE TO AIR HISSILE (SAM) SITE CUN LAYING RADAR AND AAA PLOTS (SAM/AAA PAGES)
AND RECEIVED PROSESSING CAP PROCESS LOCATION OF AN AINTERED PRESENTLY SUPPORTING JUST INTRECEPTORS THEORETICAL RADAR HORIZON FOR AIRCRAFT AT SUPPORTING JUST INTRECEPTORS THEORETICAL RADAR HORIZON FOR AIRCRAFT AT SUPPORTING COUNTRIES CONTINUED USING ESTHATED STATE COUNTRIES. THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 2000° ALTRING, COUNTRIE COUNTRIES. THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 2000° ALTRING, COUNTRIES COUNTRIES. AIRCRAFT CODE THE VEST CODE SEASON STATE SUPPORTING COUNTRIES. AIRCRAFT CODE TO FRESCO FC-D FRESCO FC-D FRESCO-D FG FRAGOT THE TABLE LIGHT THE ARREA CONTINUED CRIMENAL SAN SITE CONTINUED CRIMENAL SAN SITE CONTINUED CRIMENAL SAN SITE SEARCH LIGHT COUNTRIE. FIRE CAN F		\neg			İ	
LOCATION OF AN AIR FIELD PRESENTLY SUPPORTING INTERCEPTION. MARK HOLESCH FOR AIRCRAFT AT OUT AIRTHOGO FOR AIRCRAFT AT FINE CAN THEORETICAL SAME HOLESCH FOR AIRCRAFT AT FOOD ALTHOGO, COMPUTED USING ESTIMATED AIRCRAFT CODE AIRCRAFT CODE FR. FISHED FC. FRESCO FC-D FRESCO-D FG. FRESCO-D FR. FAGOT FILENTIAN I CAN ASTES COUNTAINE MARK SITE CON LATING CHARK SITE SEARCH LIGHT CONTRIL FIRE MEEL SI SEARCH LIGHT CONTRIL FIRE MEEL SI SEARCH LIGHT CONTRIL FIRE MEEL SI SEARCH LIGHT CONTRIL FIRE MEEL SI SHAWLING AAA SITES LIGHT AAA CODS (21-75mm) FIRE FAGOT FILE FLAGICLIGHT MERCE VITHIN SYMMLS DENOTES TOTAL COMP AT SITE	AIRFIELD PLOTS (A/W PACKE)	1			- 9€	CONFIRMED SA-2 SITE
THE CHIPTICAL MARK HORIZON FOR AIRCRAFT AT THE CHIPTICAL MARK HORIZON FOR AIRCRAFT AT THE CHIPTICAL MARK HORIZON FOR AIRCRAFT AT THE CHIPTICAL MARK HORIZON FOR AIRCRAFT AT TOUGH ALTHURE, COMPUTED USING ESTHATED THE CAN AIRCRAFT CODE THE FISHED TO FRESCO AAA SITES TO FESSOOD THE FISHENCY THE FISHENCY THE CAN CON LAYING RAMAN SEAMCH LIGHT CONTROL FOR FILE WEELL ST SEAM THACK SV SUNVISOR WHIPFY AAA SITES TO FESSOOD THE FISHENCY THE FISHENCY THE FISHENCY THE FISHENCY MIRROR WITHIN SYMMAL COMS (74-100mm) FIN FARRER MIRROR WITHIN SYMMALS DENOTES TOTAL CUMS AT SITE	(iii ingus)				*	CONFIRMED SA-3 SITE
TRECRETICAL MAINS HORIZON FOR AIRCRAFT AT 30' AUTHUR, COMPUTED USING ESTIMATED LEVATION OF PARANE SITES THEORETICAL RADAN HORIZON FOR AIRCRAFT AT 2000' AUTHUR, COMPUTED USING ESTIMATED AIRCRAFT CODE AIRCRAFT CODE AIRCRAFT CODE FOR FEESCO FC-D FEESCO-D FG FAGOT FH FISHITOT TL FLASHLIGHT FN FARER CON LAYING RADAN SERVITAGE SEARCH TACK SU SHINVISOR WHIPF AAA SITES LIGHT AAA CODS (161-75-mm) HEAVY AAA CODS (161-100-mm) HEAVY AAA CODS (161-100-mm) HEAVY AAA CODS (161-100-mm) FN FARER	LOCATION OF AN AIRFIELD PRESENTLY SUPPORTING	ŀ			- ●	CONFIRMED GENERAL SAM SITE
SEASCH LIGHT CONTROL ELEVATION OF RAMAS SITES THEORETICAL RAMAS HORIZON FOR ATROMAT AT 2000* ANTHURE, COMPUTED USING ESTHATED ATROMATIC COMPUTED USING ESTHATED OF FIRE COS ATROMATOR OF RAMAS SITES ATROMATOR OF RAMAS SITES ATROMATOR OF RAMAS SITES TO FRESCO FC FRESCO FC-D FRESCO-D FG FACOT FR FISHINGT TL FLASHLIGHT FM FARRER SEASCH LIGHT CONTROL F FIRE WEILL ST SEAN TRACK SV SUNVISOR WHIFF AAA SITES LIGHT AAA COMS (21-75-mm) HEAVY AAA GOMS (16-100-mm) HEAVY AAA GOMS (16-100-mm) HEAVY AAA GOMS (16-100-mm) FM FARRER					1.0	CUN LAYING RADAR
THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 2000 ALTITUDE, COMPUTED USING ESTIMATED ALTOUR, COMPUTED USING ESTIMATED ALECATION OF RADAR SITES ALECATION OF RADAR SITES FOR FRESCO D FOR FRESCO D FIRE FISHING FIRE FISHING ALL CORN (21-75mm) C HEDIUM ALA CORN (21-15mm) C HEDIUM ALA CORN (21-15mm) FIRE FISHING FIRE FISHING FIRE FISHING FIRE FISHING FIRE FISHING FIRE FISHING FIRE FISHING FIRE FISHING FIRE FISHING FIRE FISHING FIRE FISHING FIRE FISHING FIRE FISHING FIRE FISHING FIRE FISHING FIRE FISHING FIRE FISHING FIRE FISHING FIRE CAN FIRE FISHING FIRE CAN FIRE CAN FIRE FISHING FIRE CAN FIRE FISHING FIRE CAN FIRE FISHING FIRE CAN FIRE FISHING FIRE CAN F	50' ALTITUDE, COMPUTED USING ESTIMATED					SEARCH LIGHT CONTROL
FU FILE WELL ALREADT CODE ALREADT CODE FE FESCO FC FRESCO FC FRESCO FI FISHING FI FISHING FI FAGET FI FASIER FI		1	_		y	FIRE CAN
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ATRICART CODE FR YISHBED FC FRESCO FC-D FRESCO-D FG FAGOT FI FISHROT TL FLASHELGHT FARRER AM SITES LIGHT AM GIRS (21-75mm) MEDUW AM GIRS (76-100mm) HEAVY AM CIRS (16 mm and above) HEAVE AM CIRS (10 mm and above) HUMBER VITHIN SYMPLE DENOTES TOTAL CUMS AT SITE	The state of the s	!			ВТ -	BEAH TRACK
FB FISHED FC FRESCO FC-D FRESCO-D FG FACOT FIL FISHINGT FIL FLASHELIGHT FM FARRER WHIFF WHIF	ATROHART CODE	J	:		sv	SUNVISOR
FC FRESCO FC-D FRESCO-D FG FACOT FI FISHROT TL TLASIELICIT FARER AAA SITES LIGHT AAA CINS (21-75cm) C HETURI AAA CINS (75-100cm) EANY AAA CINS (101cm and above) MIRGER VITHIN SYMBOLS DENOTES TOTAL CUMS AT SITE	- I				w }	WILIPF
FC-D FESSOD D AM SITES FG FACOT FIL FISHROT TL FLASHSLIGHT FM FARER AM SITES LIGHT AM CHRS (21-75mm) MEDIUM AM CHRS (76-100mm) MEDIUM AM CHRS (76-100mm) MERCEN VITHIN SYMPLES DEMOTES TOTAL CHRS AT SITE	_	- 1			l	• •
FG FACOT FH FISHING TL FLASHLIGHT FM FARRER LIGHT AAA CINS (21-75mm) MEDIUM AAA CINS (76-100mm) MEDIUM AAA CINS (176-100mm) MERCE VITHIN SYMMLS DEMOTES TOTAL CUMS AT SITE	1					AM SITES
FIL FESSIVOT TE FLASIE.IGNT ACRES (101mm and above) FIN FARRER NUMBER VITHIR SYMMALS DENOTES TOTAL COMS AT SITE					\	LIGHT AAA GUNS (21-75mm)
FL FLASHLIGHT FH VARMER MINDER WITHIN SYMMULS DENOTES TOTAL GIRS AT SITE	111101			1 .	0	HEDIUM AAA GUNS (76-100mm)
FH FARMER WITHIN SYNOULS DENOTES TOTAL CORS AT SITE	' '			F	/ A	HEAVY AAA CUNS (101mm and above)
				1	1	NUMBER WITHIN SYMMULS DENOTES TOTAL COMS AT SITE

Approved For Release 2003/12/19 : CIA-RDP78T05439A000500250003-0



EARLY WARNING RADAR PLOTS (EW PAGES) EARLY WARRING (LW) BABAR Δ EARLY WARNING / GROUND CONTROLLED INTERCLIPT (GGI) RABAR THEORETICAL REAGE HORIZON
FOR ATROMAT AT "10" ALTERNOL
COMPUTED USING ESTIPATED
FLEVATION OF RAMAR SITES "BEDQ" (CHINESE) BX BAR LUCK BL --- THEORETICAL RABAR BORTOON FOR ALRCKAFT AT ZOOD' ALTITUDE, COMPUTED USING ESTIPATED ELLVATION OF RABAR SITES ВН BIG MESH SCR - 230 DA RADAR COVERAGE BY A SINGLE RADAR FLAT FACE RADAR COVERAGE OF THE SCANARD APPROACHES BY THE RADARS FR YORK REST RADAR COVERAGE OF THE SEASAND APPROACHES BY THREE OR HORE RADARS, TACHI 18 HIGH STEVE JAP HK I KNIFEREST JAP MK I HOD 3 / JAP TYPE 111 HT-DUMBO SLANT HESH 50 SPOON REST TOKEN TK TALL KING CROSS SLOT

ALBEITED PLOTS (A/V PAGES)

LOCATION OF AN AIRVIELD PRESENTLY SUPPORTING
JET HITRECHPORES

TROCUTTOR, MARK SUBJICON FOR AIRCRAFT AT
JOY ALTITUME, COMMUTED USING ESTIMATED
ELEVATION OF MARK SITES

TREEMETICAL RADAN HOWIZON FOR AIRCRAFT AT
2000', ALTITUME, COMMUTED USING ESTIMATED
ELEVATION OF MARK SITES

AIRCRAFT CODE

78

FASCO
FC-D FRESCO-D
FG FACOT
FH FISSIGNT
FL FLASHELDHT
FM FARER
FT FATTER

Δ EW/CCI RADAR EW RADAR CO-LOCATED WITH REIGHT FINDER (NF) RADAR TO FORM GCI UNITS θ ROCK CAKE STONE CAKE STORIGE CARE SEE EW LEGEED FOR EARLY WARNING RADAR ABBREVIATIONS ESTIMATED MAXIMUM EFFECTIVE CCI RANGES AGAINST A-3 ALBERGAFT FLYING ABOVE THE RADAR HORIZON. ESTIMATED MAXIMUM EFFECTIVE GC1 RANGES AGAINST A-4 AIRCRAFT FLYING ABOVE THE RADAR BORIZON. THE GCI RANGES ARE ESTIMATS INCED UNIX ASSUMED CREDITIONS UNITED STORED APPROXIMATE THE PROBABLE REFERETURNESS OF INSTRUMENT OF THE PROBABLE REFERETURNESS OF THE PROBABLE REFERENCE ASSUMED THE ALL ASSESS, ARE MAY HAVE ORS INSTRUMENT WITH TARGET ASSECT, IN ALL ASSESS, ARE MAY HAVE DESCRIBED BY EVER PROBABLE PROBABLE OF THE COLUMN PROBABLE PROBABLE OF THE COLUMN PROBABLE RADAR COVERAGE BY A SINGLE RADAR RADAR COVERAGE OF THE SEAWARD APPROACHES BY TWO RADARS

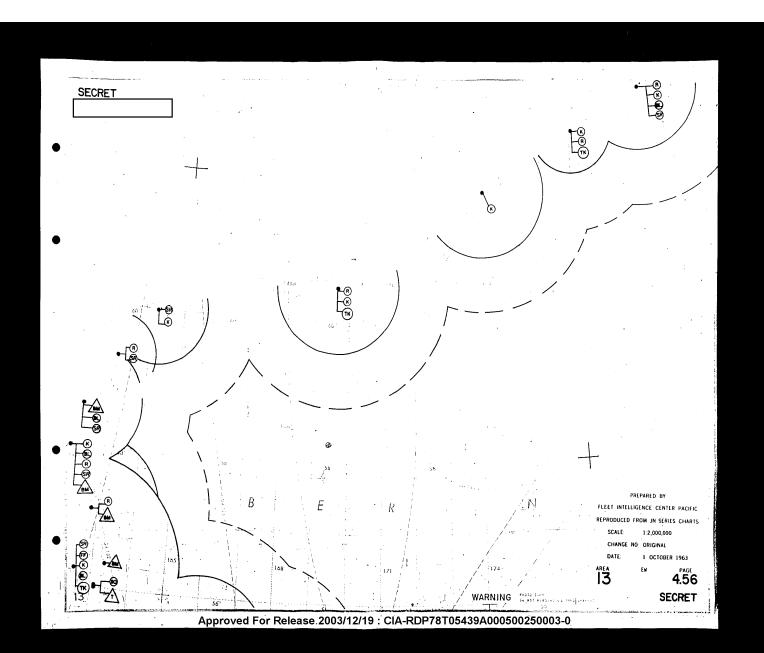
SURFACE TO AIR MISSILE (SAM) SITE, GUN LAYING RADAR AND AAA PLOTS (SAM/AAA PAGES) CONFIRMED SA-2 SITE • GUN LAYING RADAR 0 SEARCH LIGHT CONTROL FIRE CAN FIRE WHEN BEAM TRACK sv SUNVISOR w WHIFF AAA SITES \Diamond LIGHT AAA GUNS (21-75mm) 0 HEAVY AAA GUNS (101mm and above) NUMBER WITHIN SYMBOLS DENOTES TOTAL GUNS AT SITE SECRET ${\mathcal G}_{\mathcal F}$ PREPARED BY FLEET INTELLIGENCE CENTER PACIFIC REPRODUCED FROM IN SERIES CHARTS 1:2,000,000 SCALE: CHANGE NO ORIGINAL DATE 1 OCTOBER 1963 4.55 IZ . SECRET 12

EARLY WARNING RADAR PLOTS (EW PAGES) GROUND CONTROLLED INTERCEPT RADAR PLOTS (GCI PAGES) Ō EARLY WARNING (EW) RADAR Δ Δ EARLY WARNING / GROUND CONTROLLED INTLEGEPT (GCI) RABAR THEORETICAL REGAR HORIZON
FOR ATRUMATY AT 50° ALTITUDE,
COMPUTED USING ESTIMATED
FLEVATION OF RABBE SITES θ BAR LOCK --- THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES STORE CARE BIG HESH S PORGE CAKE SCR - 270 DA SIDE BUT RADAR COVERAGE BY A SINGLE RADAR SEE DW LEGEDD FOR EARLY WARRIES RADAR ABBREVIATIONS APPROACHES BY TWO RAMARS ESTIPATED HAXIMUM EFFECTIVE CCI RANGES AGAINST A-3 AIRCRAFT FLYING ABOVE THE RADAR BORIZON, YORK REST RADAR COVERAGE OF THE SEAVARD APPROACHES BY THREE OR HURE RADARS ESTIMATED MAINOR EXTENSIVE OUT MARKES AGAINST A-4 AIRCRAFT PLYING ABOVE THE RABAR BORIZON. TACHI 16 RIGH STEVE THE GOT MAGICS ARE ESTIMATES BASID DIAN ASSESSED CARDITIONS SHEET SHEET APPROXIMATE THE FROMABLE ITERCTIONNESS OF DESIVELLAR, RADIOS ACHIEVED ASSESSED ASSES JAP MX I HOD 3 / JAP TYPE III HI-DUNBO RADAR COVERAGE BY A SINGLE RADAR SLANT MESH RADAR COVERAGE OF THE SEAWARD APPROACHES BY TWO RADARS RADAR COVERAGE OF THE SEAMARD APPROACHES BY THREE UK MORE RADARS TOKEN TALL KING TX CROSS SLOT CROSS FORK SURFACE TO AIR MISSILE (SAM) SITE, CUN LAYING RADAR, AND AAA PLOTS (SAM/AAA PAGES) CONFIRMED SA-2-SITE ⊗€ AIRFIELD PLOTS (A/F PAGES) CONFIRMED SA-3 SITE CONFIRMED CENERAL SAM SITE LOCATION OF AN AIRFIELD PRESENTLY SUPPORTING JET INTERCEPTORS 0 THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 50' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES FIRE CAN THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES FH FIRE WHEEL BEAH TRACK BT. sv SUNVISOR AIRCRAFT CODE FB FISHBED FRESCO FC-D \Diamond LIGHT AAA CUNS (21-75mm) FAGOT . FG 0 HEDIUM AAA CUNS (76-100mm) FIL FISHPOT Δ MEAVY AAA GUNS (101mm and above) FL FLASHLIGHT. NUMBER WITHIN SYMBOLS DENOTES TOTAL GUNS AT SITE

rн

FT FITTER

FARIER

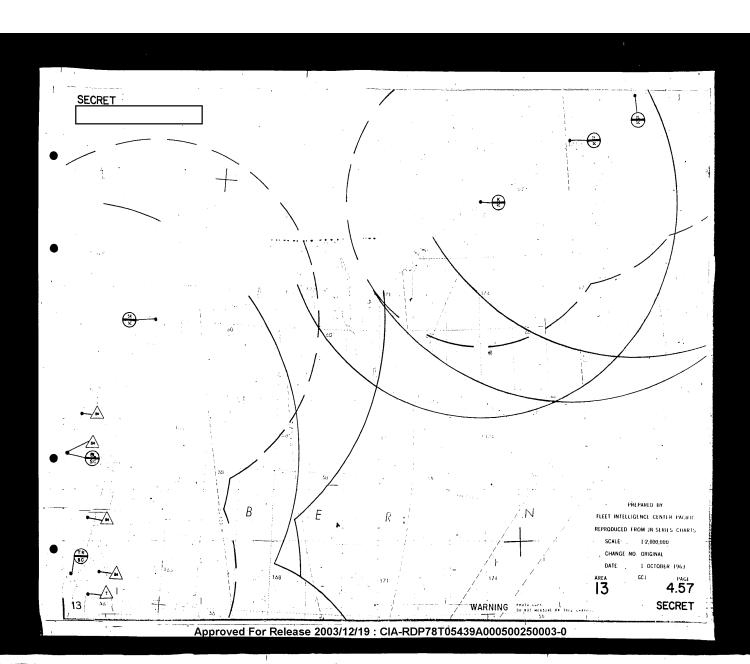


EARLY WARNING RADAR PLOTS (EW PAGES) EARLY WARNING (EW) RADAR EARLY MARNING / GROUND CONTROLLED INTERCEPT (GGI) RABAR Δ TOGOSETICAL RADAG HOREZOG FOR ATROMATE AT 50° ALTITUDE, COMPUTED USING ESTIPATED GLEVATION OF RADAR SITES BAR LOCK --- THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 2000' ALTITUBE, COMPUTED USING ESTIPACED ELEVATION OF RADAR SITES BL вн BIG HUSH SCR - 270 bA RABAR COVERAGE BY A SINGLE RADAR RADAR COVERAGE OF THE SCAPARD APPROACHES BY TWO HADARG FLAT PACE FF -PORK REST FR TACHI 18 HI HIGH STEVE KNIFEREST JAP MX I HOD 3 / JAP TYPE 111 HI-DUMBO SLANT MESH SO/BEE HOUSE SR TOKEN TALL KING ΤX CRUSS SLOT CROSS FORK

> AIRFIELD PLOTS (A/F PAGES) LOCATION OF AN AIRFIELD PRESENTLY SUPPORTING JET INTERCEPTORS THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 50° ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES' AIRCRAFT CODE PB FISHBED FRESCO FC-D FG FACOT PH FISHPOT FL. FLASHLIGHT FM FARMER FITTER

Δ EW/GCI RADAR EW RADAR CO-LOCATED WITH HEIGHT FIRDER (HF) RADAR TO FORM CCI UNITS Θ ROCK CAKE sc STORE CAKE SPONGE CARE SIBE NET SEE EW LEGEED FOR EARLY WARNING RAIME ABBREVIATIONS ESTIMATED MAXIMUM EFFECTIVE GC1 RANCES AGAINST A-3 AIRCRAFT FLYING ABOVE THE RADAR HORIZON. ESTIMATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-4 AIRCRAFT FLYING ABOVE THE RADAR HORIZON. THE GCT RADERS ARE ESTIMATES BACKD THEN ASSUMED CONDITIONS UNITED STRUCKLY ASSUMED ASS RADAR COVERAGE BY A SINGLE RADAR RADAR COVERAGE OF THE SEAWARD APPROACHES BY TWO RADARS

SURFACE TO AIR MISSILE (SAM) SITE CUN LAYING RADAR AND AAA PLOTS (SAM/AAA PAGES) CONFIRMED SA-2 SITE **⊛** CONFIRMED SA-3 SITE • GUN LAYING RADAR 0 SEARCH LIGHT CONTROL FIRE CAN FIRE WIENL BEAH TRACK SUNVISOR sv WHIFF AAA SITES LIGHT AAA GUNS (21-75mm) \Diamond HEDIUH AAA GUNS (76-100mm) 0 HEAVY AAA CUNS (101mm and above) NUMBER WITHIN SYMBOLS DENOTES TOTAL GUNS AT SITE



0 Δ UNKNOWN BK "BKDQ" (CHINESE) BAR LUCK --- THEOMETICAL RABAR HORICON FOR AIRCRAFT AT FORD ALTITUM COMPUTED USING ESTIMATED ELEVATION OF RABAR SIDS вн SCR - 230 DA RABAR COVERAGE BY A SINGLE WADAR , DUMBO MADAR COVERAGE OF THE STAVARD APPROACHES BY THE RABARS FF FLAT FACE PORK BUST BIGH STEVE JAP HK 1 KNIFERUST JAP HK I HOD 3 / JAP TYPE III SH SLANT HESH SO SO/BEE HOUSE :: SE SPOON REST TOKEN TK TALL KING CRUSS .SLOT XY

> AIRFIELD PLUTS (A/F PAGES) LOCATION OF AN AIRFIELD PRESENTLY SUPPORTING JET INTERCEPTORS THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 50° ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES THEORETICAL RADAR HORIZON FOR AIRCKAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES FISHBED FC FRESCO FC-D FRESCO-D FG FAGOT FL FLASHLIGHT FH FARMER FITTER ¥τ

CROSSO CANTOLLED INTERCEPT

BARKE PLOTE (CET PAGE)

CET BAINE CO-LOCATED WITH DELIGIT FERGER

(DE) BARKE TO VERSE CET URITS

SET STREE CASE

SE STREE CASE

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SE STREED FARM ADMITTING COT BARRES ACAINST A-3

ARRANGE FRANKE BARRES THE BARRES MORRES ACAINST A-3

ARRANGE TAYING ARMY THE BARRES BROKEN.

ESTHATED BARRESH PETERTUR COT BARRES ACAINST A-4

ARRANGE THYTHE ARMY THE BARRE BROKEN.

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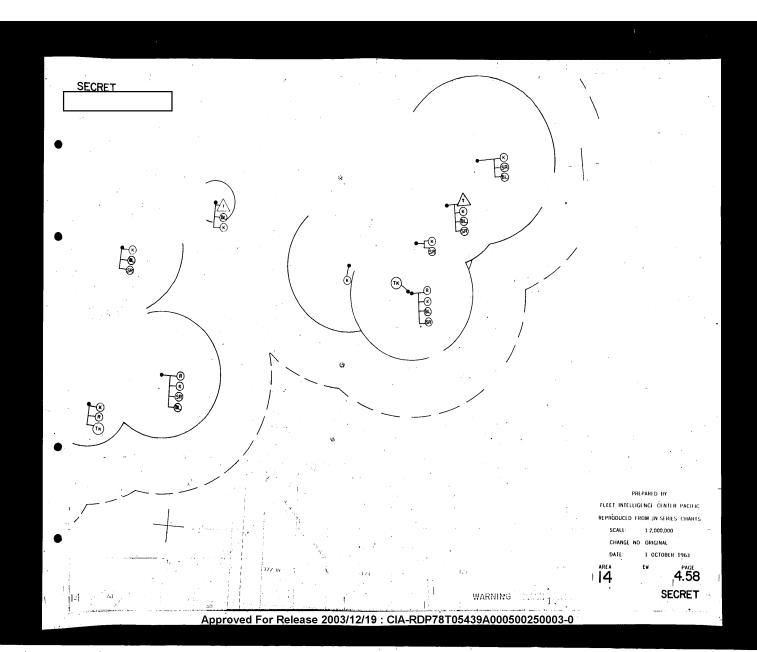
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BARRE COVERAGE OF THE SEAMAND APPROACHES BY TWO BARRANS

BARRE COVERAGE OF THE SEAMAND APPROACHES BY TWO BARRANS

BARRES RAMAGE

SURFACE TO AIR MISSILE (SAM) SITE,GUN LAYING RADAR,AND AAA PLOTS (SAM/AAA PAGES) **⊕** CONFIRMED CENERAL SAM SITE • GUN LAYING RADAR SEARCH LIGHT CONTROL FIRE WIELL BEAM TRACK S۷ SUNVISOR WHIFF \Diamond LIGHT AAA GUNS (21-75mm) HEDIUH AAA CUNS (76-100mm) 0 HEAVY AAA GUNS (101mm and above) Δ NUMBER WITHIN SYMBOLS DENOTES TOTAL GUNS AT SITE



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	0	EARLY WARNING (EW) RADAR		* *
	Δ	EARLY CARNING / GROUND CONTROL	LED	INTURCLET (GCI) RADAR
	7	UNICHOIGH		THEORETICAL RADAM MORIZON FOR AIRCRAFT AT 50° ALTITUDE,
	BK	"BERG" (CHINESE)		COMPUTED USING ESTIPATED PLEVATION OF RADAR SITES
1	BL	BAR LOCK		THEORETICAL RADAR HORIZON
	вн	BIG HESH		FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED
	С	SCR - 270 DA		ELEVATION OF RABAR SITES
	b	DUKBO .		RADAR COVERAGE BY A SINGLE RADAR
	FF	FLAT PACE		RADAR COVERAGE OF THE SEASARD APPROACHES BY TWO HADARS
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AIRFIELD PLOTS (A/F PAGES)

LOCATION OF AN AIRFIELD PRESENTLY SUPPORTING
JET INTERCEPTORS

THEORETICAL RADAR HORIZON FOR AIRCRAFT AT SO' ALTITUDE, COMPUTED USING ESTIMATED LECKTION OF MADAR SITES

THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES

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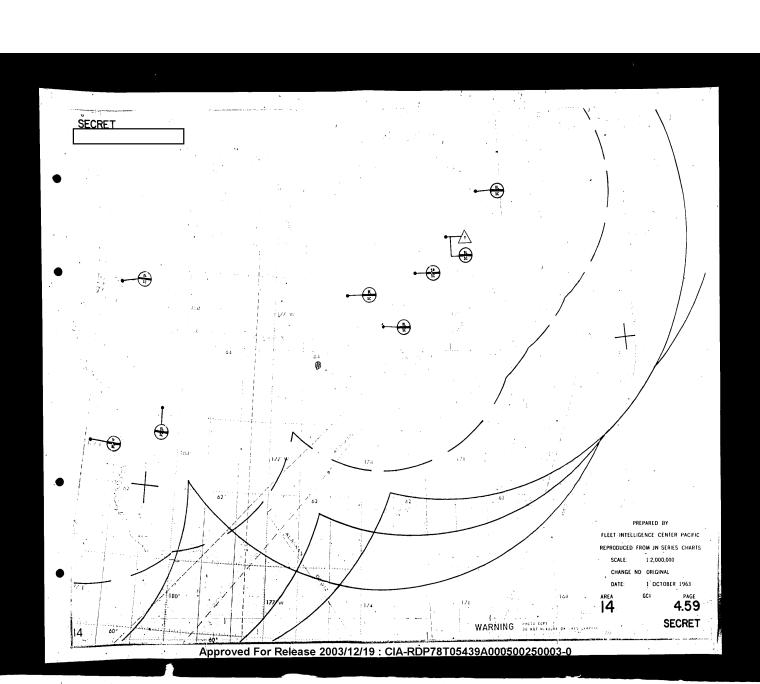
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	GROUND CONTROLLED DITERCEPT RABAR PLOTS (CCI PAGES)
Δ	EW/GC1 RADAR
Θ	EW RADAR CO-LOCATED WITH MEIGHT FIRSER (MF) RADAR TO FORM GCI UNITS
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sc	STORE CARE
SK	SPONGE CARE
SN	SEDE NET
	' SEE EW LEGERE FOR EARLY WARRING RAIMS ABBREVIATIONS
_	ESTIMATED MAXIMUM EFFECTIVE GGI RANGES AGAINST A-3 AIRCRAFT FLYING ABOVE THE RADAR BORIZON,
	ESTIMATED MAXIMUM REFECTIVE GCI RANGES AGAINST A-4 AIRCRAFT FLYING ABOVE THE RADAR HORIZON,
HOTE:	THE GCI BARGES ARE ESTIMATES BASED HYM ASSURED CONDITION MICHIGANICAL APPROXIMATE THE PROBABLE EFFECTIVENESS OF INDIVIDUAL ADARDS AGAINST ABERGAT IN A SOSSEMO ASPECT. THESE RACES MAY WARY CONSIDERABLY WITH TARGET ASTROT. IN ALL CASES, ARCRAFT WILL BE DETECTED BY BY MARKS PAID OR RACHING THE GCI HORALOW.
	RADAR COVERAGE BY A SINGLE RADAR
	RADAR COVERAGE OF THE SEAWARD APPROACHES BY TWO RADARS
	RADAR COVERAGE OF THE SEAWARD APPROACHES BY THREE OR MORE RADARS

	SURFACE TO AIR MISSILE (SAM) SITE GUN LAYING RADAR AND ANA PLOTS (SAM/ANA PAGES)
. ❤	CONFIRMED SA-2 SITE
*	CONFIRMED SA-3 SITE
· 🚱	CONFIRMED GENERAL SAM SITE
0	GUN LAYING RADAR
	SEARCH LIGHT CONTROL
F	FIRE CAN
PW	FIRE WIEEL
ВТ	BEAM TRACK
sv	SUNVISOR .
u	NJIJYY .
	AAA SITES
\Diamond	LIGHT AAA GUNS (21-75mm)
Q	HEDIUH AAA GUNS (76-100mm)
╽	HEAVY AAA GUNS (101mm and above)
	NUMBER WITHIN SYMBOLS DENOTES TOTAL GUNS AT SITE



EARLY WARNING RADAR PLOTS (EW PAGES) Δ EARLY MARNING I GROUND CONTROLLED INTERCEIT (GCI) WABAR THEORETICAL RADAR HORIZON
FOR AIRCRAFT AT 30' ALTITUDE,
COMPUTED USING ESTIMATED
FLEWATION OF RADAR SITES UNKNOWN "BKIN" (CHINESE) FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES BIG MESH SCR - 270 DA С RADAR COVERAGE BY A SINGLE RADAR DUMBO FLAT FACE RADAR COVERAGE OF THE SEAMARD
APPROACHES BY THREE OR HORE RADARS HIGH SIEVE JAP HK I KNIFEREST JAP MK I HOD 3 / JAP TYPE III HI-DUMBO SH SLANT MESH 50 SO/BEE HOUSE 52 SPOON REST CROSS FORK

> AIRFIELD PLOTS (A/F PAGES) LOCATION OF AN AIRFIELD PRESENTLY SUPPORTING . $\tt JET_LNTERCEPTORS$ THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 50° ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 2000 ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES FISHBED FRESCO FC D FRESCO-D FACOT . PH FISHPOT FLASHLIGHT FL FH TARKER FT FITTER

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MADAR PLOTS (CCI PAGES)

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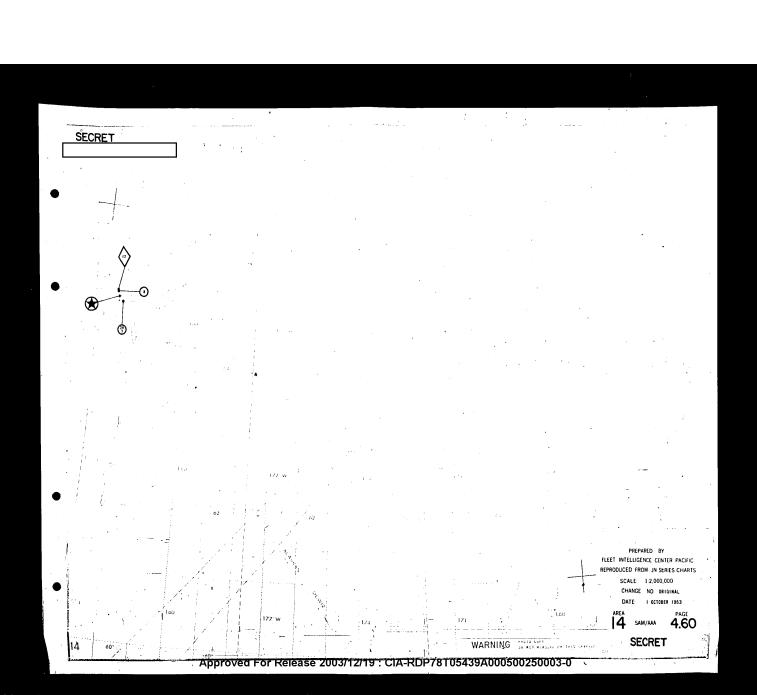
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SURFACE TO AIR MISSILE (SAM) SITE, CUN LAYING RADAR, AND AMA PLOTS (SAM/AMA PAGES) CONFIRMED SA-2 SITE CONFIRMED SA-3 SITE CONFIRMED GENERAL SAM SITE GUN LAYING RADAR FIRE CAN PIRE WIELL BEAM TRACK BT sv SUNVISOR 0 LIGHT AAA GUNS (21-75mm) MEDIUM AAA CUNS (76-100mm) HEAVY AAA GUNS (101mm and above) NUMBER WITHIN SYMBOLS DENOTES TOTAL CUNS AT SITE



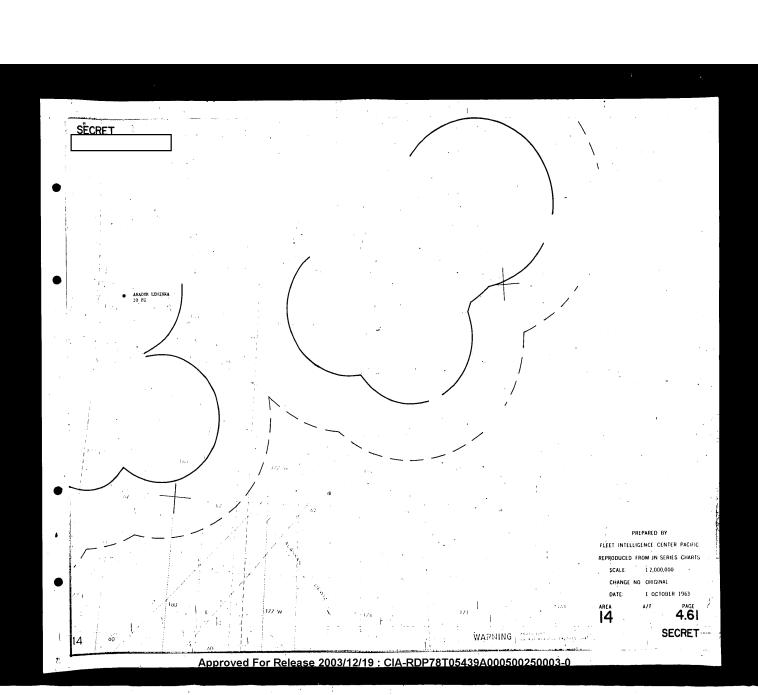
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	0	EARLY WARNING (EW) RADAR	:
	Δ.	EARLY WARRING / GROUND CONTRO	•
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	BK	"BKDQ" (CHINESE)	COMPUTED USING ESTIMATED FLEVATION OF RABAR SITES
	BL.	BAR LUCK	THEORETICAL RADAR HORIZON
	BM	BIG MESH	FOR AIRCRAFT AT 2000 ALTITUDE, COMPUTED USING ESTIMATED
	с	SCR - 270 DA	ELEVATION OF RABAR SITES
	D	DUMBO	RADAR COVERAGE BY A SINGLE NADAR
	**	FLAT PACE	APPROACHES BY THE SHAWARD RAINAS
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		· AIRFIELD PLOTS (A/F PAGES)
	•	LOCATION OF AN AIRFIELD PRESENTLY SUPPORTING JET INTERCEPTORS
	_	THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 50' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES
		THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTHATED ELEVATION OF RADAR SITES
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	FG .	YAGOT FISHPOT
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		GROUND CONTROLLED INTERCEPT RADAR PLOYS (GCT PAGES)
	Δ	EW/GCI RADAR
	Ө	EV RADAR CO-LOCATED WITH HEIGHT FINDER (NF) RADAR TO FORM GCI UNITS
	RC	ROCK CAKE
	sc	STORE CAKE
	SK	SPORGE CAKE
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		SEE EU LEZEND FOR EARLY WARNING RADAR ABBREVIATIONS
	_	ESTIMATED MAXIMUM EFFECTIVE GGI RANGES AGAINST A-3 ATRICHAFT FLYING ABOVE THE RADAR HORIZON.
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	NOTE:	THE COT BANCES ARE ESTIMATES MAKED UNON ASSUMED CONDITIONS WHICH SHOULD APPROXIMATE PERFORMANCE PRECITIVANESS OF THE PROMISE EXPECTIVANESS OF THESE RANGES MY VARY CONSERBALLY WHILL MAKED ASPECT. IN ALL CASES, AIRCRAFT WILL BE DETECTED BY EW MIGHES PRICE TO REACHING THE GOT HORIZON.
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		RADAR COVERAGE OF THE SEAWARD APPROACHES BY TWO RADARS
		RADAR COVERAGE OF THE SEAMARD APPROACHES BY THREE OR MORE RADARS

	SURFACE TO AIR HISSILE (SAM) SITE, CUN LAYING RADAR, AND ANA PLOTS (SAM/ANA PAGES)
€	CONFIRMED SA-2 SITE
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\Diamond	LIGHT AAA GUNS (21-75mm)
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	NUMBER WITHIN SYMBOLS DENOTES TOTAL CUNS AT SITE
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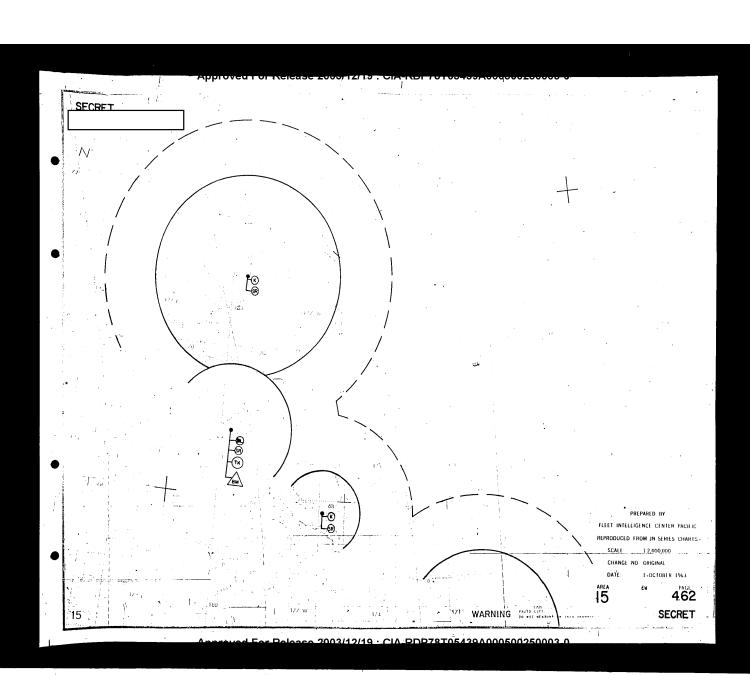


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Δ	EARLY NARNING / GROUND CONTROLLED INTERCEPT (GCI) RADAR		
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B.L.	BAR LUCK	THEORETICAL RABAR HORIZON	
ВН	BIG MESH	FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED	
c	SCR - 270 DA	ELEVATION OF RADAR SITES	
D	DUKBO	RADAR COVERAGE BY A SINGLE RADAR	
**	FLAT FACE	APPROACHES BY THE SHAHARD	
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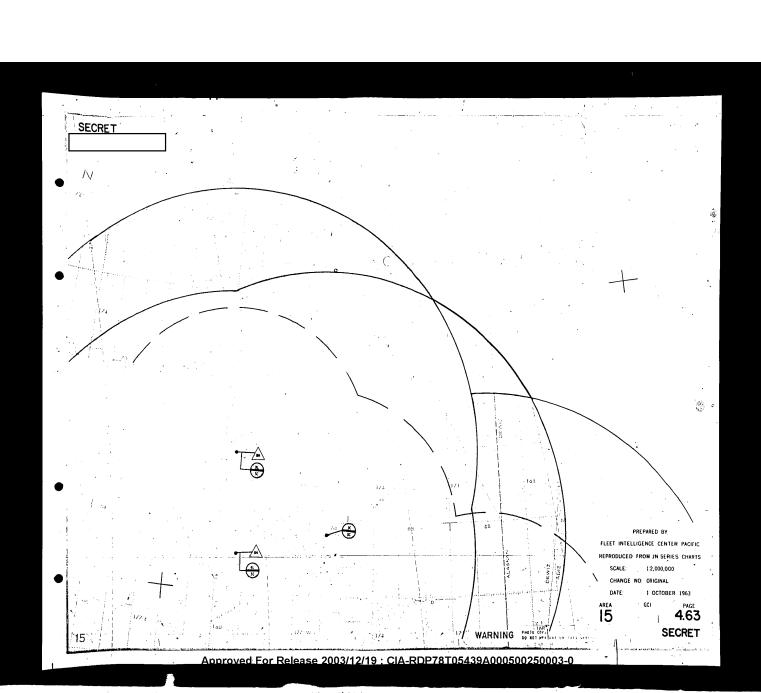
	AIRFIELD PLOTS (A/F PAGES)	
•	LOCATION OF AN AIRFIELD PRESENTLY SUPPORTING JET INTERCEPTORS	
÷	THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 50' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES	
	THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 2000 ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES	
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	GROUND CONTROLLED INTERCEPT RADAR PLOTS (GCI PAGES)
Δ	EW/GC1 RADAR
θ	EW RADAR CO-LOCATED WITH HEIGHT FINDER (HF) RADAR TO FORM GCI UNITS
RC	ROCK CAKE
sc	STORE CAKE
SK	S PORGE CAKE
SN	SIDE NET
	SEE EW LEGERD FOR EARLY, WARNING RABAR ABBREVIATIONS
_	ESTIMATED MAXIMUM EFFECTIVE GCI MARGES AGAINST A-3 AIRCRAFT FLYING ABOVE THE RADAR HORIZON.
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NOTE:	THE OUT BANKES ARE ESTIMATES MAKED UNEW ASSUMED COMBITIONS MINISTER SIMBLE STREAM APPROXIMANT FOR PROBABLE FERTUTIONISMS OF INSURING ALLEYS ALKERAY IN A ROSS-WIS ASPLET. FINESE RADIES HAVE ANY VARY CORRESPONDED HAVE THAT ASPLET. IN ALL CASES, AIRCRAFT WILL BE DETECTED BY EN MAKED FRIDE TO REACHING THE OUT BENT HIS THE OUT HOST AND ASPLET.
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	RADAR COVERAGE OF THE SEAWARD APPROACHES BY TWO RADARS
	RADAR COVERAGE OF THE SEAMARD APPROACHES BY THREE OR MORE RADARS

	SURFACE TO AIR MISSILE (SAM) SITE, CUN LAYING RADAR, AND AAA PLOTS (SAM/AAA PAGES)
⊛	CONFIRMED SA-2 SITE
* *	CONFIRMED SA-3 SITE
●	CONFIRMED GENERAL SAM SITE
0	CUN LAYING RADAR
	SEARCH LIGHT CONTROL
7	FIRE CAN
PV	FIRE WHEEL
87	BEAH TRACK
sv	SUNVISOR
	WILDER .
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l .	AAA SITES
◊	LIGHT AAA CUNS (21-75cm)
0	MEDIUM AAA GUNS (76-100mm)
Δ.	HEAVY AAA CUNS (101mm and above)
	NUMBER WITHIN SYMBOLS DENOTES TOTAL CURS AT SITE



O Δ EW/GC1 RADAR \triangle EW RADAR CO-LOCATED WITH HEIGHT FINDER (NF) RADAR TO FORM GCI UNITS UNKNOW θ "BKIX)" (CHINESE) ROCK CAKE BAR LOCK --- THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES S.C STORE CAKE SCR - 270 DA риново SEE EV LEGEND FOR EARLY WARNING RADAR ABBREVIATIONS HADAR COVERAGE OF THE SEAWARD APPROACHES BY TWO RADARS FF FLAT FACE ESTIMATED MAXIMUM EFFECTIVE GC1 RANGES AGAINST 4-3 AIRCRAFT FLYING ABOVE THE RADAR HORIZON, FORK REST RADAR COVERAGE OF THE SEAWARD APPROACHES BY THREE OR HORE RADARS ESTIMATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-4 AIRCRAFT FLYING ABOVE THE RADAR BORIZON. HIGH SIEVE THE OLI BANKES ARE ESTIMATS INCOLUNG ASSISTED CONDITIONS WHICH SHOULD APPROXIMATE THE PROBABIL FIFECTIVENESS OF FOREIGN AND ASSISTED ASSIS JAP # 1 KNIFEREST JAP HK I HOD 3 / JAP TYPE III RADAR COVERAGE BY A SINGLE RADAR RADAR COVERAGE OF THE SEAWARD APPROACHES BY TWO RADARS SO/BEE HOUSE 50' SR S POON REST TOKEN ΤK TALL KING SURFACE TO AIR MISSILE (SAH) SITE,GUN LAYING RADAR.AND ANA HLOTS (SAH/AAA PAGES) CONFIRMED SA-2 SITE AIRFIELD PLOTS (A/F PAGES) CONFIRMED SA-3 SITE 0 LOCATION OF AN AIRFIELD PRESENTLY SUPPORTING JET INTERCEPTORS GUN LAYING RADAR 0 THEORETICAL RADAR MORIEON FOR AIRCRAFT AT 50° ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES SEARCH LIGHT CONTROL FIRE CAN THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES FIRE WHEEL BEAM TRACK SUNVISOR sv WHITE ĖВ FISHBED FC FRESCO AAA BITES \Diamond FC-D FRESCO-D LIGHT AAA GUNS (21-75mm) FG VACOT 0 FISHPOT HEAVY AAA GUNS (101mm and above) FL. FLASHLIGHT NUMBER WITHIN SYMBOLS DENOTES TOTAL GUNS AT SITE **FARMER** FH FT FITTER



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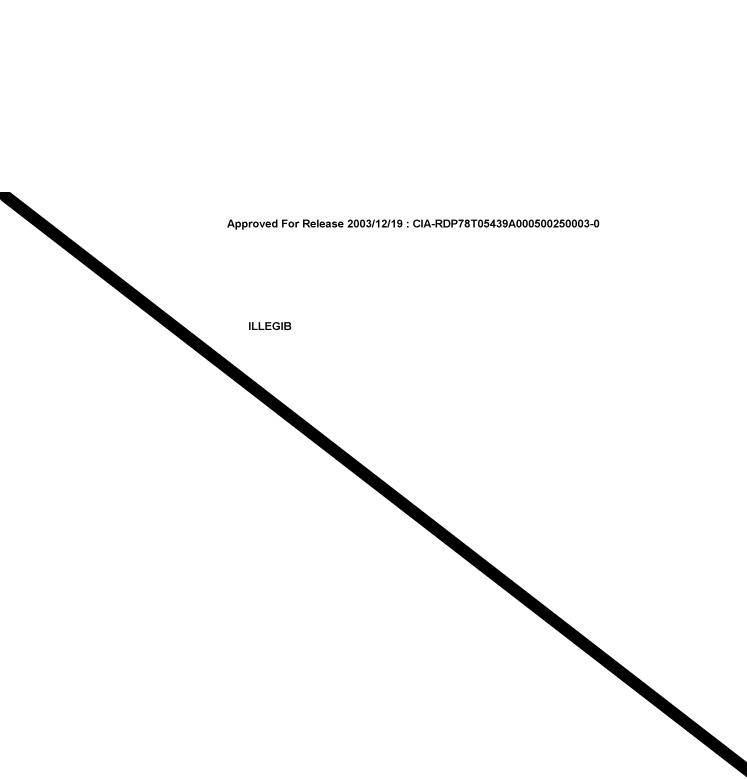
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BL.	BAR LOCK	THEORETICAL RADAR HORIZON
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	RADAR COVERAGE OF THE SEAWARD APPROACHES BY TWO RADARS
Π.	RADAR COVERAGE OF THE SEAWARD APPROACHES BY THREE OR HORE RADARS

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		AIRFIELD PLOTS (A/F PAGES)
.	•	LOCATION OF AN AIRFIELD PRESENTLY SUPPORTING JET INTERCEPTORS
	<u> </u>	THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 50 ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES
		THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 2000 ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES
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	FC-D	FRESCO-D
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	FH	FISHPOT
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	SURFACE TO AIR MISSILE (SAM) SITE GUN	LAYING
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*	CONFIRMED SA-3 SITE	
€	CONFIRMED CENERAL SAM SITE	
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	HURBER WITHIN SYNBOLS DENOTES TOTAL	L GUNS AT SITE



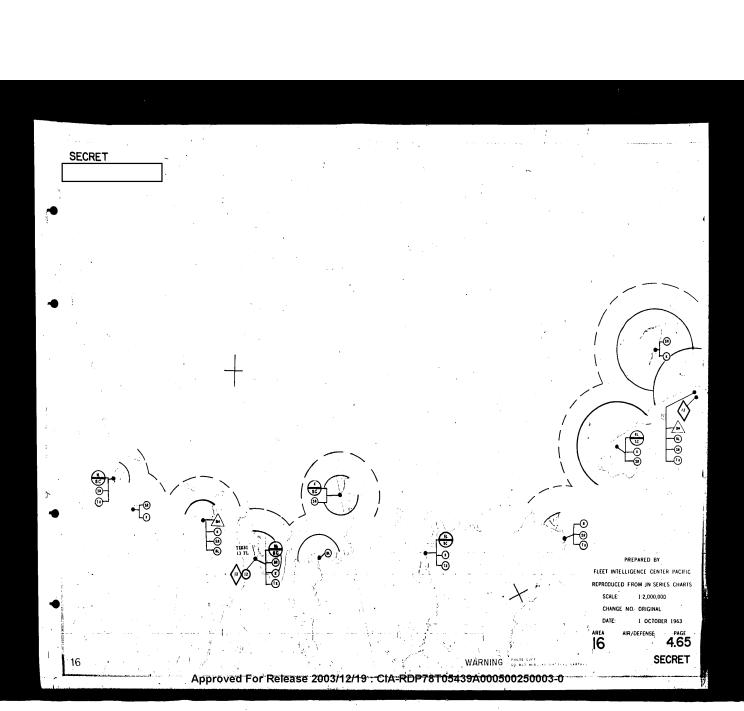
EARLY WARNING (EW) RADAR Δ EARLY WARNING / GROUND CONTROLLED INTERCEPT (GCI) RADAR THEORETICAL RADAR HORIZON
FOR AIRCRAFT AT 30° ALTITUDE,
COMPUTED USING ESTIMATED
ELEVATION OF RADAR BITES BK "BKDQ" (CHINESE) NL. BAR LOCK --- THEORETICAL RADAE HORIZON FOR AIRCRAFF AT 2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF EADAE SITES BIG HESH SCR - 270 DA RADAR COVERAGE BY A SINGLE BADAR RADAR COVERACE OF THE SEAWARD APPROACHES BY TWO RADARS ** FLAT FACE 78 FORK REST HADAR COVERAGE OF THE SEAWARD APPROACHES BY THREE OR HORE RADARS TACHI 18 j x KNIFEREST JAP HK I HOD 3 / JAP TYPE III HI-DUNGO 5 H SLANT NESH SO/REE HOUSE SI S POON REST TOKEN ΤX TALL KING CROSS SLOT (3)

> AIRFIELD PLOTS (A/F PAGES) LOCATION OF AN AIRFIELD PRESENTLY SUPPORTING JET INTERCEPTORS THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 50' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES rc FRESCO FRESCO-D FC-D FG FAGOT FII FISHPOT п FLASHLIGHT FH YARHER FT FITTER

GROUND CONTROLLED INTERCEPT RADAR PLOTS (GCI PAGES) Δ EW/GCI RADAR EW RADAR CO-LOCATED WITH HEIGHT FINDER (HF) RADAR TO FORM GCI UNITS θ 1.C ROCK CAKE sc STORE CAKE SK SPONGE CAKE · 5N SIDE NET SEE EW LEGEND FOR EARLY WARNING RADAR ABBREVIATIONS ESTIMATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-3 AIRCRAFT FLYING ABOVE THE RADAR HORIZON. ESTIMATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-4 AIRCRAFT FLYING ABOVE THE RADAR HORIZON. ----THE CLI ANGEL ARE STITUTE BANKE MALEUM.

MECH SHOULD APPROXIMET THE PROBBLE EFFECTIVENESS OF TODOLOGY AND A SHOULD NOTE: RADAR COVERAGE BY A SINGLE RADAR RADAR COVERAGE OF THE SEAWARD APPROACHES BY TWO RADARS RADAR COVERAGE OF THE SEAWARD APPROACHES BY THREE OR HORE RADARS

SURFACE TO AIR HISSILE (SAM) SITE, CUN LAYING RADAR, AND AAA PLOTS (SAM/AMA PAGES) CONFIRMED SA-2 SITE **€** * CONFIRMED SA-3 SITE CONFIRMED CENERAL SAM SITE GUN LAYING BADAR 0 FIRE.CAN FIRE WIELL TW вт BEAM TRACK sv SUNVISOR \Diamond LIGHT AAA CUNS (21-75mm) 0 MEDIUM AAA GUNS (76-100mm) Δ HEAVY AAA GUMS (101mm and above) NUMBER WITHIN SYMBOLS DENOTES TOTAL GUNS AT SITE

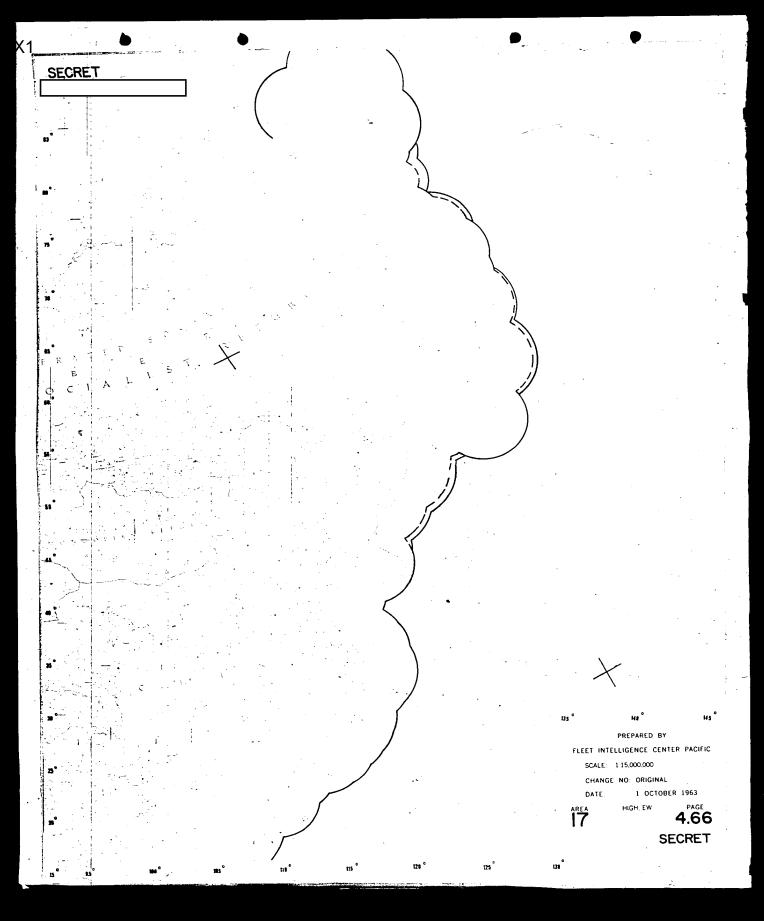


EARLY WARNING (EW) RADAR 0 EARLY WARNING / GROUND CONTROLLED INTERCEPT (GCI) BABAR Δ THEORETICAL RADAG HORIZIES
FOR ALREMANT AY 50° ALTITUDES,
COMMUTED USING ESTIMATED
FELVATION OF RADAG SITES DINGIONS "BKIN" (CHINESE) --- THEOMETICAL RADAR HORIZON FOR ATBURKET AT TOGO' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES BL BIG MESH вн C SCR -, 270 DA . RADAR COVERAGE BY A SINGLE RADAR рижво HADAR COVERAGE OF THE STAMARD APPROACHES BY TWO MADARS YR TACHI 18 HIGH STEVE JAP MK I KNIVEREST JAP MK 1 HOD 3 / JAP TYPE 111 (*) HI-DUMBO SLANT HESH SO/BEE HOUSE TOKEN TALL KING TK CROSS SLOT x CROSS FORK

> AIRFIELD PLOTS (A/F PAGES) LOCATION OF AN AIRFIELD PRESENTLY SUPPORTING JET INTERCEPTORS THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 50° ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES FB FISHBED FC FRESCO FC-D FG FISHPOT Fii FL FLASHLIGHT PH **YARHER** FITTER

	1
4	GROUND CONTROLLED INTERCEPT RABBAR PLOTS (GCI PAGES)
Δ	EN/GCI RADAR
θ	EU RAIAR CO-LOCATED WITH HEIGHT FINDER (HF) RADAR TO FORM GCI UNITS
RC.	ROOK CARE
sc -	STORE CASE
SK	SPORGE CAKE
SN	SIDE NET
	SEE EW LEGERD FOR EARLY WARNING RADAR ABBREVIATIONS
	ESTIMATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-3 AIRCRAFF FLYING ABOVE THE RADAR HORIZON.
	ESTIMATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-4 AIRCRAFT FLYING ABOVE THE RABAR HORIZON.
NOTE:	THE GGT RACELS ARE EXTINGTS BOTHD BYEN ASSURED COURTH HOS GHICH SHOULD APPROXIMANT THE FROMBALLE FERTINGNESS OF HERE BASINS AND AND ADMINISTRATION TO A SOURCE ASSURED. HERE BASINS AND YARY CORSIDERALLY WHITE MERIT ASSURET, IN ALL CASIS, ATREAST WILL BE DETECTED BY BY RADAGE PRIOR TO EXACHING THE CCT HOSTICAL.
	RADAR COVERAGE BY A SINGLE RADAR
	RADAR COVERAGE OF THE SEAWARD APPROACHES BY TWO RADARS
\Box	RADAR COVERAGE OF THE SEAWARD APPROACHES BY THREE OR HORE RADARS

SURPACE TO AIR MISSILE (SAM) SITE,GUN LAYING RADAR,AND AAA PLOTS (SAM/AAA PAGES) CONFIRMED SA-2 SITE **⊛** * CONFIRMED GENERAL SAM SITE GUN LAYING RADAR 0 SEARCH LIGHT CONTROL PIRE WHEEL вт BEAM TRACK SUNVISOR sv WHITE AAA SITES \Diamond Ο. HEAVY AAA GUNS (101 mm and above) NUMBER WITHIN SYMBOLS DENOTES TOTAL GUNS AT SITE



GROUND CONTROLLED INTERCEPT RADAR PLOTS (GCI PAGES) 0 EARLY WARNING (EW) RADAR EW/GCI RADAR EARLY WARNING / GROUND CONTROLLED INTERCEPT (GCI) RADAR Δ Δ - THEORETICAL RADAR HORIZON
FOR AIRCRAFT AT 50 ALTITUDE,
COMPUTED USING ESTIMATED
ELEVATION OF RADAR SITES UNKNOWN θ BK "BKDQ" (CHINESE) ROCK CAKE RC --- THEORETICAL RABAR HORIZON FOR ATRICAST AT 2000' ALTITUDE, CONDUITED USING ESTIMATED ELEVATION OF RADAR SITES BAR LOCK M. sc STONE CAKE BIG HESH вн SPONGE CAKE с. SCR - 270 DA SIDE NET RADAR COVERAGE BY A SINGLE RADAR ринво SEE EW LEGETO FOR EARLY WARNING RADAR ABBREVIATIONS BADAR COVERAGE OF THE SEAVARD APPROACHES BY TWO RADARS 77 ESTIMATED MAXIMUM EFFECTIVE GCI RANGES AGAINST A-3 AIRCRAFT FLYING ABOVE THE RADAR HORIZON. FORK REST BADAR COVERAGE OF THE SEAWARD APPROACHES BY THREE OR HORE RADARS ESTIMATED MAXIMUM EFFECTIVE GGI RANGES AGAINST A-4 AIRCRAFT FLYING ABOVE THE RADAR HORIZON. TACHI 18 THE GCI BANCES ARE ESTIMATE BASED UND ASSURED CRUITIONS WHICH SHOULD APPROXIMAT THE PROMABE EFFECTIVENESS OF INDIVIDUAL ROOMS ACAISST ARECAST WITH TARCET ASSESS.

IN ALL CASES, AREAS AND ASSURED THE TARCET ASSECT. IN ALL CASES, AREAS AND ASSURED THE TARCET ASSECT. HI HIGH SIEVE JAP MK I JAP MK I HOD 3 / JAP TYPE III HI-DUMBO RADAR COVERAGE BY A SINGLE RADAR RADAR COVERAGE OF THE SEAWARD APPROACHES BY TWO RADARS 'sx SLANT HESH RADAR COVERAGE OF THE SEAMARD APPROACHES BY THREE OR HORE RADARS SO/BEE HOUSE S POON REST TOKEN TALL KING TX CROSS SLOT x CROSS FORK CONFIRMED SA-2 SITE AIRFIELD PLOTS (A/F PAGES) CONFIRMED SA-3 SITE CONFIRMED CENERAL SAM SITE € LOCATION OF AN AIRFIELD PRESENTLY SUPPORTING JET INTERCEPTORS 0 THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 50' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES SEARCH LIGHT CONTROL FIRE CAN THEORETICAL RADAR HORIZON FOR AIRCRAFT AT 2000' ALTITUDE, COMPUTED USING ESTIMATED ELEVATION OF RADAR SITES FW FIRE WHEEL ВТ BEAH TRACK sv WHIFF FB FISHBED AAA SITES FC FRESCO

FG

FH

FL PH FISHPOT ,

FLASHILIGHT

PARMER

 \Diamond LIGHT AAA GUNS (21-75mm) HEDIUM AAA GUNS (76-100mm) 0 HEAVY AAA GUNS (101mm and above) MUMBER WITHIN STREETS DENOTES TOTAL GUNS AT SITE



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